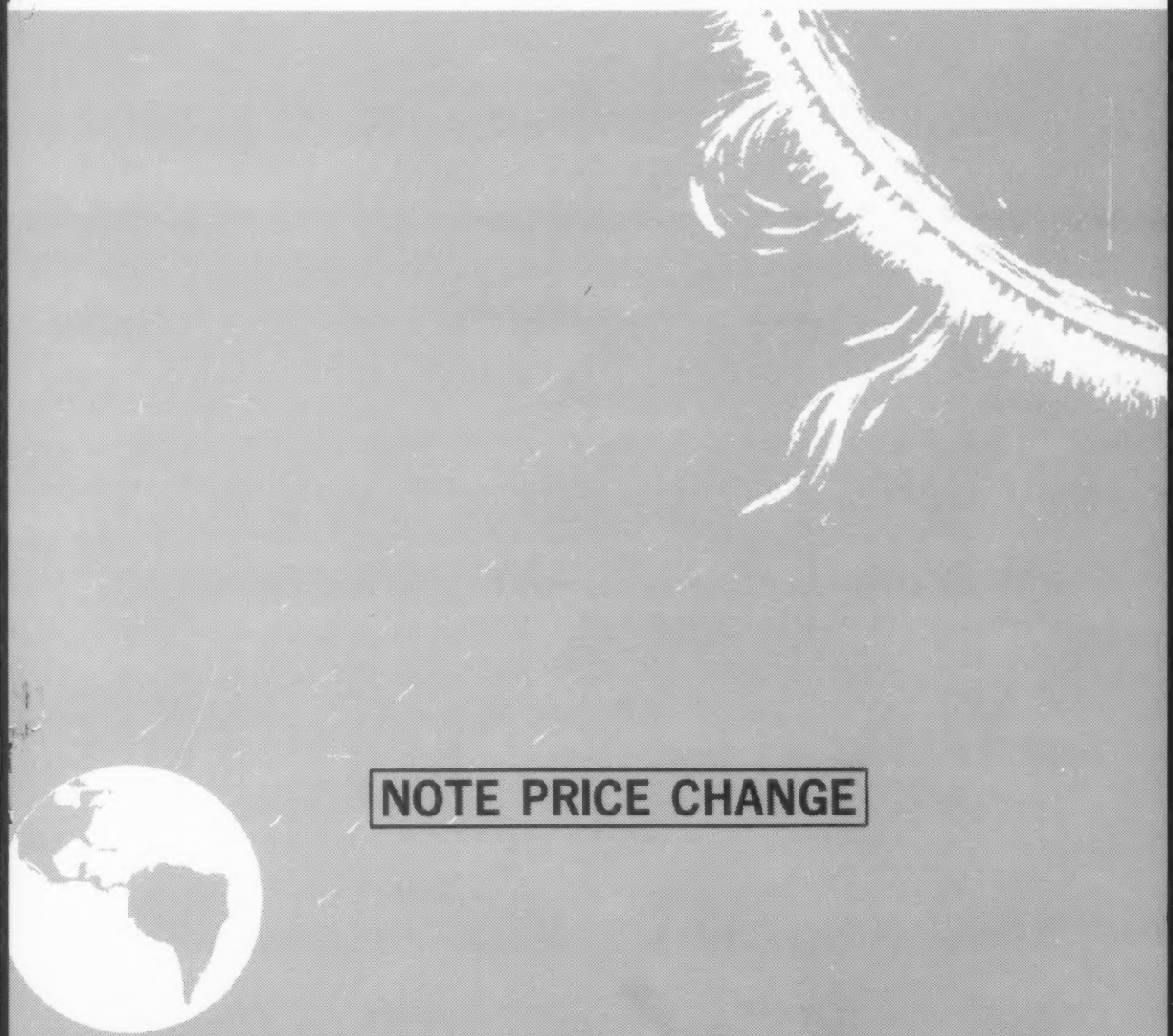
December 1974 Number 364-Part I

Solar-Geophysical Data prompt reports

Data for November 1974–October 1974



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Solar - Geophysical Data

NO. 364 DECEMBER 1974

Part I (Prompt Reports)

DATA FOR
NOVEMBER 1974
OCTOBER 1974

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BOULDER, COLORADO

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* * * * * * *

To standardize referencing these reports in the open literature, the following format is recommended:

Solar-Geophysical Data, CRPL–FB 135*, pages, issue date, U.S. Department of Commerce, (Boulder, Colorado, U.S.A. 80302).

*CRPL–FB 135 through 269
IER–FB 270 through 298
299 Part I or 299 Part II to number of current issue.

SOLAR - GEOPHYSICAL DATA

No. 364

Issued in two parts

Hope I. Leighton, Editor

J. Virginia Lincoln, Director
Solar - Terrestrial Data Services Division

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For explanations of the data contained herein see *Descriptive Text* published as supplement to February 1974 *Solar-Geophysical Data* (Number 354).

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

NOVEMBER 1974

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS).

Boulder 05/1430Z Soflare in S12W76 051530Z in progress. Tenflare peak 202 units 05/1536Z, 19 minutes, 102 units above background
Boulder 06/0456Z Tenflare 120 FU 060313Z, 1B Optical, M1 Xray Flare at S11W86
Boulder 09/1400Z Strong Magstorm in progress 09/1400Z
Boulder 11/1800Z Magstorm in progress K = 5 at 11/1500Z, K = 6 at 11/1800Z
Boulder 14/0438Z Weak Magstorm in progress 14/0438Z

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10cm solar flux	A index	Active Regions Location Lat-Long	No. of Flares Total	M	X	Outstanding events	Forecasts Date	Location Lat-Long	Desc*	Alert Situations
305	01	31	23	93	06	S04W15	0	0	0		01	S04W15	Q	SOLALERT NE LIMB 01/XX
						S18E52	0	0	0			S18W52	Q	MAGQUIET
306	02	01	24	92	05	S05W28	0	0	0		02	S05W28	Q	SOLNIL MAGQUIET
						N12E72	3	0	0			N12E72	Q	
307	03	02	28	94	06	S06W42	1	0	0		03	S06W42	Q	SOLQUIET
						N11E60	2	0	0			N11E60	Q	MAGQUIET
308	04	03	72	98	05	S06W53	0	0	0		04	S06W53	Q	SOLQUIET
						N11E44	6	0	0			N11E44	E	MAGQUIET
						N08E52	2	0	0			N08E52	E	
						N14E44	0	0	0			N14E44	Q	
309	05	04	76	101	04	S05W67	1	0	0		05	S05W67	Q	SOLQUIET
						N12E32	5	0	0			N12E32	E	MAGQUIET
						N06E33	1	0	0			N06E33	Q	
						N15E31	3	0	0			N15E31	E	
						S10W67	1	0	0			S10W67	Q	
310	06	05	55	101	05	N13E18	0	0	0	1N, X1 FLARE	06	S11W81	C#	SOLALERT 06/XX CAUTION WEST LIMB
						N15E21	0	0	0	05/1530Z. MINOR		N13E18	E	MAGQUIET
						S11W81	2	0	1	PROTON EVENT		N15E21	E	
311	07	06	48	94	07	N13E04	0	0	0	TENFLARE 06/0415Z	07	N13E04	E	SOLALERT 07/08 WEST LIMB
						N15E05	0	0	0	120 UNITS 060308		N15E05	E	MAGQUIET
						S11W94	7	2	1	50 MINUTE WEST LIMB CLASS ONE FLARES AT 0313Z and 1347Z.		S11W94	C	
312	08	07	17	87	07	N12W07	1	0	0		08	N12W07	Q	SOLNIL, MAGALERT 08/14
313	09	08	00	84	13	NONE	0	0	0	A MINOR GEOMAGNETIC STORM STARTED 08/1415Z WITH SC.	09		NONE	SOLQUIET, MAGALERT 09/14
314	10	09	11	80	36	N10W33	0	0	0	MINOR GEOMAGNETIC STORM CONTINUES	10	N10W33	Q	SOLQUIET, MAGALERT 10/14
315	11	10	25	80	09	N05W13	0	0	0	MINOR GEOMAGNETIC	11	N05W13	Q	SOLQUIET
						N09E16	0	0	0	DISTURBANCE CONTINUES		N09E16	Q	MAGALERT 11/14
316	12	11	50	79	29	N05W21	1	0	0	MINOR GEOMAGNETIC	12	N05W21	Q	SOLQUIET
						N09E03	1	0	0	STORM CONTINUES		N09E03	Q	MAGALERT 12/14
						N08W05	0	0	0			N08W05	Q	
317	13	12	36	81	36	N08W10	0	0	0	MINOR GEOMAGNETIC	13	N08W10	Q	SOLQUIET
						N08W17	0	0	0	STORM CONTINUES		N08W17	Q	MAGALERT 13/14
318	14	13	22	78	22	N05W24	0	0	0	MINOR GEOMAGNETIC	14	N05W24	Q	SOLQUIET
						N06W32	0	0	0	STORM CONTINUES AT REDUCED INTENSITY		N06W32	Q	MAGALERT 14/14
319	15	14	00	79	32	N08W35	0	0	0	MINOR GEOMAGNETIC	15	N08W35	Q	SOLQUIET
						N12E88	0	0	0	STORM CONTINUES		N12E88	CE	MAGALERT 15/16
320	16	15	26	82	08	N14E72	2	0	0	GEOMAGNETIC DISTURBANCE DECREASED IN INTENSITY	16	N14E72	E	SOLQUIET
						S04E14	0	0	0			S04E14	Q	MAGALERT 16
321	17	16	35	84	13	N14E63	1	0	0		17	N14E63	Q	SOLQUIET
						S04E01	0	0	0			S04E01	Q	MAGNIL
322	18	17	43	87	09	N14E50	1	0	0		18	N14E50	Q	SOLQUIET
						S04W10	0	0	0			S04W10	Q	MAGQUIET
323	19	18	32	91	06	N14E34	5	0	0		19	N14E34	Q	SOLQUIET
						N02E62	0	0	0			N02E62	Q	MAGQUIET

* Q=Quiet E=Eruptive A=Active F=Proton C=Caution D=Doubtful O.G.=Other Groups

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

NOVEMBER 1974

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10cm solar flux	A index	Active Regions				Outstanding events	Forecasts			Alert Situations
						Location Lat-Long	No. of Flares Total	M	X		Date	Location Lat-Long	Desc*	
324	20	19	55	98	08	N13E20 N02E46 N07E76	1 1 0	0 0 0	0 0 0		20	ALL GROUPS E. LIMB	Q C	SOLQUIET MAGALERT MINOR 20/22
325	21	20	52	98	18	N13E06 N01E31 N06E58	0 0 0	0 0 0	0 0 0	MINOR MAGNETIC DISTURBANCE IN PROGRESS	21	ALL GROUPS	Q 	SOLQUIET MAGALERT MINOR 21/23
326	22	21	56	99	17	N13W06 N01E18 N06E45	0 5 2	0 0 0	0 0 0	MINOR INTERMITTENT MAGNETIC DISTURBANCE CONTINUES	22	ALL GROUPS	Q 	SOLQUIET MAGALERT MINOR 22/24
327	23	22	79	101	16	N11W19 N00E05 N05E30	1 0 0	0 0 0	0 0 0	MINOR GEOMAGNETIC DISTURBANCE CONTINUES	23	N11W19 N00E05 N05E30	Q Q Q	SOLQUIET MAGALERT MINOR 23/24
328	24	23	65	101	11	N14W31 N02W08 N09E21	1 1 2	0 0 0	0 0 0	MINOR GEOMAGNETIC DISBURBANCE CONTINUES	24	N14W31 N02W08 N09E21	Q Q Q	SOLQUIET MAGALERT MINOR 24/25
329	25	24	42	99	16	N14W48 N03W20 N08E06	2 3 1	0 0 0	0 0 0	MINOR GEOMAGNETIC DISTURBANCE CONTINUES	25	N14W48 N03W20 N08E06	Q Q Q	SOLQUIET MAGALERT 25/26
330	26	25	30	97	14	N14W56 N08W07	3 0	0 0	0 0	MINOR GEOMAGNETIC DISTURBANCE CONTINUES	26	N14W56 N08W07	Q Q	SOLQUIET MAGALERT 26
331	27	26	23	95	14	N14W75 N07W05	0 0	0 0	0 0	MINOR GEOMAGNETIC DISTURBANCE DECREASES	27	BOTH GROUPS	Q 	SOLQUIET MAGNIL
332	28	27	25	93	09	N13W89 N06W20	0 0	0 0	0 0		28	BOTH GROUPS	Q 	SOLQUIET MAGQUIET
333	29	28	27	90	07	N06W34 N04W40	0 1	0 0	0 0		29	BOTH GROUPS	Q 	SOLQUIET MAGQUIET
334	30	29	11	86	04	N05W47	0	0	0		30	N05W47	Q	SOLQUIET MAGQUIET
335	01	30	11	84	01	N04W63	1	0	0		01	N04W63	Q	SOLQUIET MAGQUIET

RELATIVE SUNSPOT NUMBERS

ZURICH, R_z

1973 FINAL 1974 PROVISIONAL

DAY	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
1	46	18	13	25	26	48	38	82	37	8	61	16
2	24	15	12	16	20	70	49	97	23	8	53	17
3	24	13	8	16	19	89	55	96	12	16	46	39
4	0	12	7	17	22	103	80	98	17	41	60	44
5	8	8	0	18	21	106	62	107	18	40	85	34
6	0	8	0	19	23	113	78	111	26	50	83	22
7	0	0	8	20	28	109	70	88	32	44	81	26
8	7	29	16	16	38	106	59	63	34	32	91	14
9	8	36	22	20	58	91	64	42	45	63	102	7
10	16	44	21	30	70	69	61	29	51	80	114	24
11	9	49	21	37	75	64	58	22	50	83	110	24
12	9	60	36	38	78	56	38	27	67	88	92	21
13	8	45	50	30	83	40	48	28	69	82	76	15
14	8	74	26	42	87	35	46	46	66	67	63	7
15	17	77	46	37	98	24	34	65	59	67	48	16
16	26	64	48	23	93	16	25	74	57	70	41	20
17	40	65	47	20	75	8	24	65	52	73	28	20
18	43	52	46	32	64	0	29	59	44	68	14	18
19	41	58	45	20	51	0	32	45	43	58	7	34
20	47	49	43	9	49	0	23	50	32	34	11	37
21	51	37	37	16	43	0	20	55	28	13	12	37
22	51	36	45	31	28	7	11	61	34	0	9	39
23	47	28	35	27	17	9	11	64	34	7	7	46
24	51	16	29	21	19	7	16	62	28	11	7	33
25	53	0	17	18	20	8	15	61	25	11	8	28
26	57	8	20	10	20	20	8	67	8	13	16	27
27	26	0	42	9	35	18	8	60	8	19	30	27
28	12	8	35	17	30	32	18	61	8	23	27	10
29	0	7		19	22	20	30	42	14	38	22	7
30	8	0		25	16	0	52	41	8	60	22	7
31	8	0		26		52		38	15		16	
MEAN	23.3	29.3	27.7	22.7	44.4	42.3	38.7	61.5	33.7	42.2	46.5	23.9

1973 yearly mean = 38.0

DAILY SOLAR FLUX AT 2800 MHz
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

1973 1974

DAY	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
1	86.9	71.5	71.8	76.4	72.1	98.5	97.9	105.4*	85.1	77.8	93.1	90.2
2	86.3	73.2	73.1	76.5	71.3	113.1	100.1	112.7*	85.2	79.4	94.6	92.0
3	92.7	73.3	73.1	77.1	71.6	115.5	98.9	118.5*	83.0	79.2	93.4	96.2
4	78.6	72.5	72.9	79.0	73.3	118.0	98.2	127.8*	85.8	81.0	100.5	99.5
5	73.6	72.1	74.0	78.6	76.3	119.7	96.5	125.6*	86.5	81.5	113.3*	97.6*
6	78.9	74.7	75.4	77.5	80.0	123.0	95.0*	121.5	88.0	82.2	115.0	92.3
7	78.4	76.0	77.4	76.0	80.2	119.3	92.8	110.9*	85.8	85.4	114.5*	85.6
8	78.9	79.7	78.8	77.0	81.1	115.8	95.0*	104.7*	89.4	93.4	125.2	82.0
9	71.2	84.9	80.8	80.2	87.8	110.0	95.1	95.5	87.5	96.0	128.9	78.9
10	72.3*	89.2	80.5	86.1	93.5*	105.1	97.0	86.2	88.3	102.0	129.3*	78.4
11	71.9	91.0*	77.5	85.9	99.8	104.3	95.3*	83.1	94.4	104.6	137.5*	77.3
12	72.5	94.6	76.5	86.2	105.6*	97.1	91.7	83.3	99.4	105.6	144.1	79.1
13	73.1	94.8*	77.3	84.5	102.8	93.5	89.8	83.3	95.2	106.8*	126.6	76.1
14	73.8	98.7	76.3	81.9	116.3	88.2	88.1	83.3	93.2	104.1	113.2*	77.7
15	76.6	91.8	83.7	82.9	122.9*	84.9	84.7	85.5	92.1	103.6	103.7*	80.0
16	79.7	90.0	84.7	81.8	115.0*	80.3	86.2	91.3	96.6	102.0*	94.9	82.5
17	82.1	89.2	85.9	82.7	101.8	75.8	87.2	91.0	98.8	100.3	83.8	84.6
18	84.9	87.1	87.5	80.2	98.0	75.2	84.4	86.5	95.1*	100.0	81.0	88.5
19	87.8	85.8	82.7	80.0	87.5*	73.0	82.8	87.1	88.8	91.7	75.2	96.8
20	89.9	84.4	82.2	79.6	82.3	72.5	83.8	86.7	82.6	85.9*	75.5	95.6
21	97.6	79.7	82.2	79.1	79.5	71.9	81.4	90.1	81.2*	82.7	73.9	96.2
22	96.7*	83.5*	82.2	80.0	75.3	72.2	82.3	95.3*	80.6	81.0	72.6	98.7
23	96.8	81.0	84.2	79.8	73.9	71.5	80.2	98.5	81.0	74.6	74.0	98.1
24	98.1	77.8	80.9	76.6	75.0	72.4	79.1	92.1*	77.4	72.8	74.7	95.9
25	97.6	74.1	78.6	74.3	76.5	72.4	78.8	89.5	75.7	72.8	76.9	94.5
26	92.9	71.5	76.2	72.6	74.9	79.6	79.6	93.1	73.8	75.4	88.7	92.2
27	88.6	70.7	76.4	71.8	75.3	85.1	82.4	87.9	72.7	77.0	80.0	90.8
28	81.7*	70.8	75.8	70.4	77.9	87.4	83.0	84.5	71.8	80.7	81.6	86.6
29	76.4	70.7		71.5	81.6	89.4	89.4*	85.2	72.4	90.7	81.6	83.8
30	74.1	70.8		72.1	91.7	91.3	93.1*	85.9	74.2	91.5	82.7	82.8
31	72.0	71.3		72.9		95.1		87.4	75.6		86.7*	
MEAN	81.5	80.4	78.9	78.4	86.7	92.6	89.0	95.5	85.1	88.7	97.1	88.3

* adjusted for burst

DAILY SOLA

NOVEME

NOV 1974	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX		
			R_Z	$R_{A'}$	OTTAWA 2800	AFCRL 15400	AFCRL 8800
1	305	22	16	21	91.6	517	279
2	306	23	17	20	93.5	525	286
3	307	24	39	36	97.8	525	288
4	308	25	44	33	101.2	528	280
5	309	26	34	30	99.3*	537	280
6	310	27	22	17	94.0	538	281
7	311	1	26	17	87.2	526	276
8	312	2	14	6	83.6	515	271
9	313	3	7	4	80.4	521	274
10	314	4	24	16	80.0	524	279
11	315	5	24	24	78.9	519	275
12	316	6	21	22	80.8	519	276
13	317	7	15	15	77.7	517	273
14	318	8	7	10	79.4	520	274
15	319	9	16	10	81.8	525	282
16	320	10	20	18	84.4	525	283
17	321	11	20	18	86.6	523	288
18	322	12	18	20	90.6	525	288
19	323	13	34	35	98.4	528	293
20	324	14	37	34	98.0	528	290
21	325	15	37	40	98.6	515	295
22	326	16	39	36	101.2	525	303
23	327	17	46	41	100.6	529	297
24	328	18	33	35	98.5	533	289
25	329	19	28	20	97.0	524	287
26	330	20	27	18	94.7	536	294
27	331	21	27	21	93.3	524	286
28	332	22	10	9	89.0	523	282
29	333	23	7	7	86.1	518	281
30	334	24	7	6	84.4	517	282
MEAN			23.9	21.3	90.3	524	284

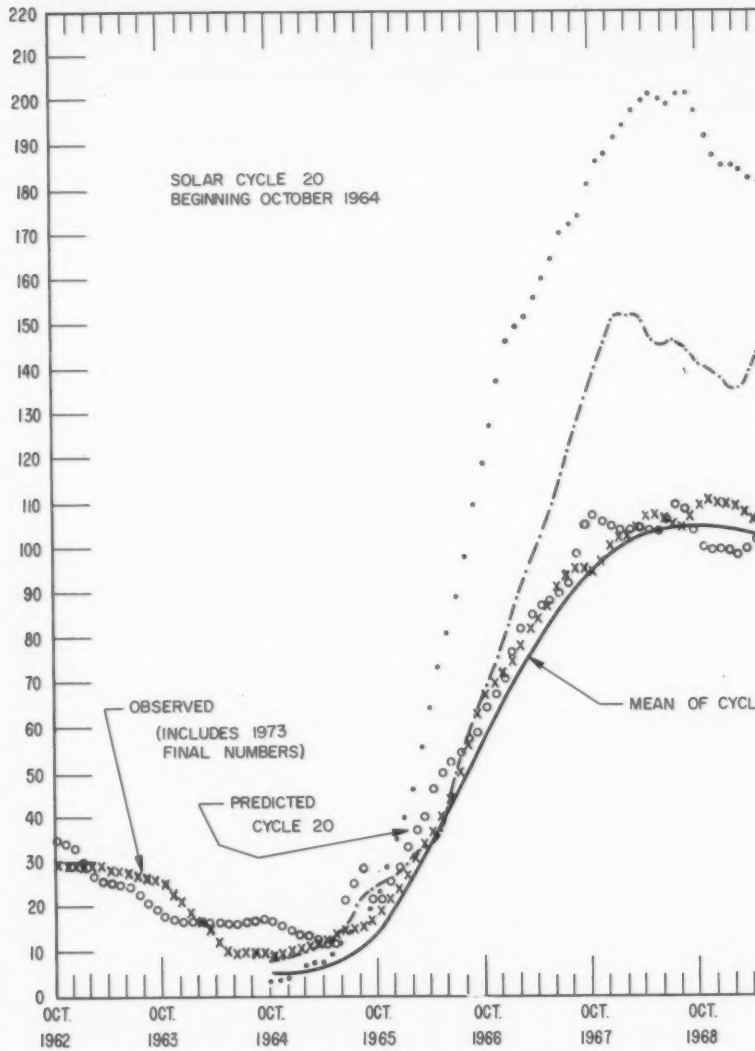
* Corrected for burst.

LAR INDICES

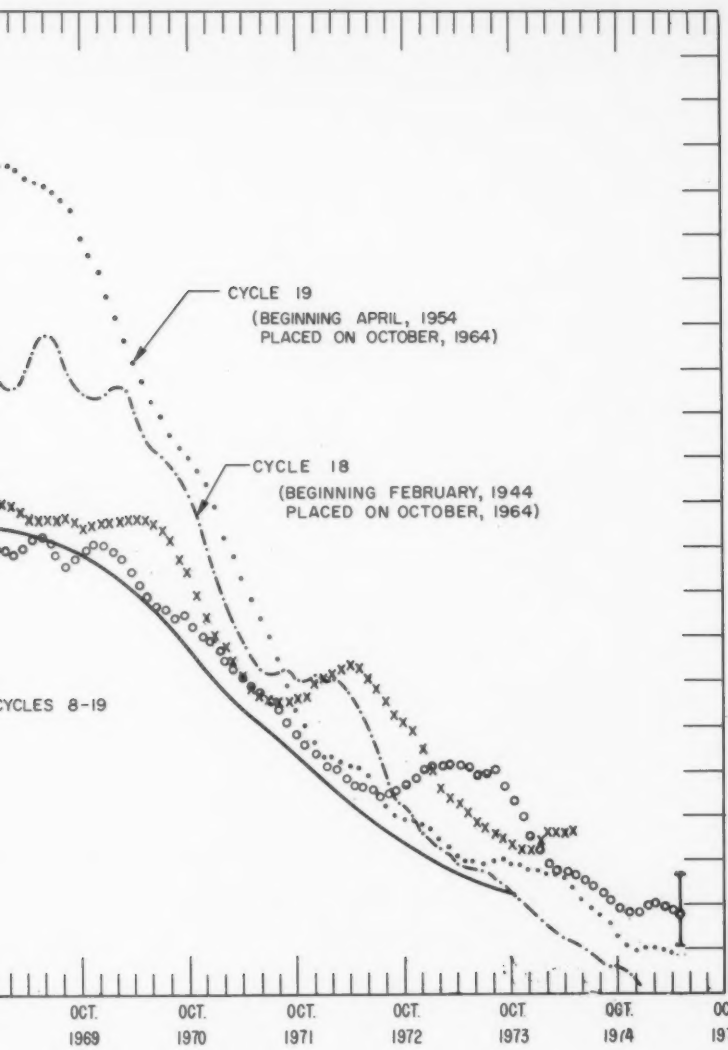
EMBER 1974

SOLAR FLUX ADJUSTED TO 1 A.U.							
CRL 00	AFCRL 4995	OTTAWA 2800	AFCRL 2695	AFCRL 1415	AFCRL 606	AFCRL 410	AFCRL 245
79	131	90.2	87.4	67.0	42.5	25.9	9.1
86	134	92.0	92.0	67.1	41.7	24.5	9.5
88	137	96.2	94.9	71.0	42.4	25.7	9.1
90	139	99.5	96.5	74.3	44.7	26.8	9.4
90	135	97.6*	93.5	74.1	42.6	26.7	9.0
81	134	92.3	93.3	72.0	44.2	25.0	9.5
76	127	85.6	85.1	67.4	40.9	25.1	9.8
71	123	82.0	81.5	64.7	39.8	25.5	9.1
74	120	78.9	76.6	61.0	37.9	25.6	8.9
79	122	78.4	76.3	59.3	38.1	24.0	9.2
75	121	77.3	74.8	55.3	35.8	24.8	9.3
76	126	79.1	77.9	59.0	38.1	24.0	8.6
73	119	76.1	74.1	55.1	36.1	23.2	9.0
74	125	77.7	76.9	58.1	36.0	24.6	10.2
82	128	80.0	77.5	58.4	35.6	24.7	10.8
83	127	82.5	78.8	55.5	36.7	25.5	14.1
88	130	84.6	83.6	57.4	36.5	23.5	14.3
88	134	88.5	87.2	60.7	37.4		14.4
93	139	96.0	94.9	65.4	39.5	25.7	21.8
90	139	95.6	94.4	66.6		26.2	14.9
95	141	96.2	96.5	70.8	43.7	28.8	14.3
03	144	98.7	101.3	72.8	43.6	28.3	17.2
97	141	98.1	95.1	73.5	44.9	28.8	11.9
89	137	95.9	95.7	73.6	43.4	28.3	11.7
87	136	94.5	92.3	71.4	43.3	27.7	9.7
94	134	92.2	90.2	70.7	44.9	25.8	9.5
86	134	90.8	90.3	69.7	46.1	29.4	10.2
82	128	86.6	87.0	68.2	42.5	26.4	10.8
81	124	83.8	82.4	62.6	42.2	26.6	10.0
82	125	82.0	82.4	63.8	41.2	26.8	9.5
84	131	88.3	87.0	65.6	40.8	26.0	11.2

7 Nov 74



PREDICTED AND OBSERV



ERVED SUNSPOT NUMBERS

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS

CYCLE 20

MONTH	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1964										9.6	10.2	11.3
1965	11.7	12.0	12.5	13.6	14.6	15.0	15.5	16.4	17.4	19.7	22.3	24.5
1966	27.7	31.3	34.5	37.4	40.7	44.6	50.3	56.6	63.1	67.6	70.2	72.7
1967	75.0	78.8	82.2	84.6	87.4	91.3	94.1	95.3	95.3	95.0	97.1	100.6
1968	102.6	102.9	104.7	107.2	107.6	106.6	105.2	104.8	107.0	109.9	110.6	110.1
1969	110.0	109.6	108.0	106.4	106.2	106.1	105.8	106.4	105.4	104.1	104.6	104.9
1970	105.6	106.0	106.2	106.1	105.8	105.3	103.8	101.0	97.2	93.9	89.4	84.1
1971	80.4	77.8	74.4	70.9	68.1	66.7	65.4	64.6	65.8	66.2	66.8	69.4
1972	70.8	71.2	72.4	73.4	72.9	70.5	68.2	65.5	62.2	60.6	58.7	55.1
1973	50.9	46.5	44.2	42.7	40.7	39.1	37.6	36.3	34.7	33.2	32.7	32.6
1974	34.2	36.1	35.7	35.7	36.4	35.4 (2)	33.8 (4)	31.8 (5)	29.5 (6)	27.6 (7)	25.9 (8)	24.6 (8)
1975	23.3 (8)	21.8 (8)	20.6 (8)	19.3 (8)	17.9 (9)	16.8 (10)	15.8 (12)	15.0 (--)	14.2 (--)	13.3 (--)	12.5 (--)	12.0 (--)

For each month, the upper figure is the observed or predicted Zürich smoothed sunspot number. The lower figure in parenthesis is the corresponding absolute value of the 90% prediction interval, an indication of the uncertainty above and below the predicted number. Observed numbers are those with no prediction intervals. The observed smoothed sunspot numbers are based on final Zürich numbers through 1973.

The predicted sunspot numbers are derived from a regression analysis based on cycles 8 through 19. Tests indicate that earlier cycles are from a different statistical population. From July 1968 - February 1970 a regression analysis based on cycles 1 through 19 was used because it had not then been proven that two populations exist.

SOLAR FLARES

PARTIAL LISTING

Solar Flares for which at least one observatory has assigned a numerical importance of "1" or greater.

NOVEMBER 1974

OBSERVATORY	OBSERVED UT: DATE NOV	START	END	MAX. PHASE	LOCATION: APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS: TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	REMARKS
MITK	01	0441	0446		N11	E90	1.000	13324	7.9	5	1N		P	0446	1.13				
TEHR	01	0624	0644	0635U	S19	W28	.616	13314	30.2	20	1F	4	C		2.46				F
ATHN	04	0741	0850	0746	N11	E39	.625		7.2	69	SB	4	C		.66				U F
BUCA	04	0747	0851		N14	E40	.641	13324	7.3	64	1N		P	0752	2.21	2.90			E
TEHR	04	0828E	0837D	0830U	N12	E46	.714	13324	7.8	9D	1N	1	C		2.32				U
BOUL	04	1700	1740	1709	N12	E44	.690	13324	8.0	40	1N		C	1709	1.82	2.54			
PALE	04	1702	1728	1708	N12	E45	.702		8.1	26	SF	3	C		1.35				F
PALE	05	1530	1544	1536	S12	W76	.978	13310	30.9	14	1N	3	V		.26				DE
BOUL	05	1539E	1630	1544	S13	W77	.982	13310	30.9	51D	1N		C	1544	1.50	4.74			
BOUL	05	1640	1700D	1649	N 8	E31	.511	13324	8.0	20D	1N		C	1649	1.93	2.24			
PALE	06	0213	0220D	0220D	S12	W85	.998	13310	30.7	7D	1B	1	V		.83				DE
PALE	06	0309	0342D	0335	S12	W85	.998	13310	30.8	33D	1B	1	C		.72				DE
TEHR	06	0319E	0329D	0320U	S11	W84	.997	13310	30.8	10D	1B	2	C		1.03				DE
RAMY	06	1404E	1449	1405U	N15	E14	.272	13324	7.6	45D	1B	3	C		2.97				U
BOUL	06	1422E	1443D	1427U	N15	E12	.243	13324	7.5	21D	1N		C	1427	2.03	2.08			
MANI	15	0556	0614	0601	N12	E86	.996	13338	21.7	18	1N	2		0601	.93	2.70			F
TEHR	15	0600E	0612D	0603U	N11	E87	.997	13338	21.8	12D	1F	4	V		.83				F
MCMA	18	1841	1915	1844	N11	E90	1.000	13343	25.5	34	1F		C	1844					AR
MITK	29	0155	0240	0201	N08	W45	.702	13343	25.7	45	1N		C	0201	2.06	2.90			E

Note: Catania and Capri-S express Maximum Intensities in percent of the local undisturbed chromosphere instead of percent of the local continuum. Parentheses are used to indicate this difference.

"Remarks":

A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by a high speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H and K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα line suggests ejection of high velocity material.
S = Brightness follows disappearance of filament (same position).
T = Region active all day.
U = Two bright branches, parallel (||) or converging (Y).
V = Occurrence of an explosive phase: important and abrupt expansion in about a minute with or without important intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

SOLAR FLARES

Date, time (UT) and coordinates of Subflares not included in preceding table.

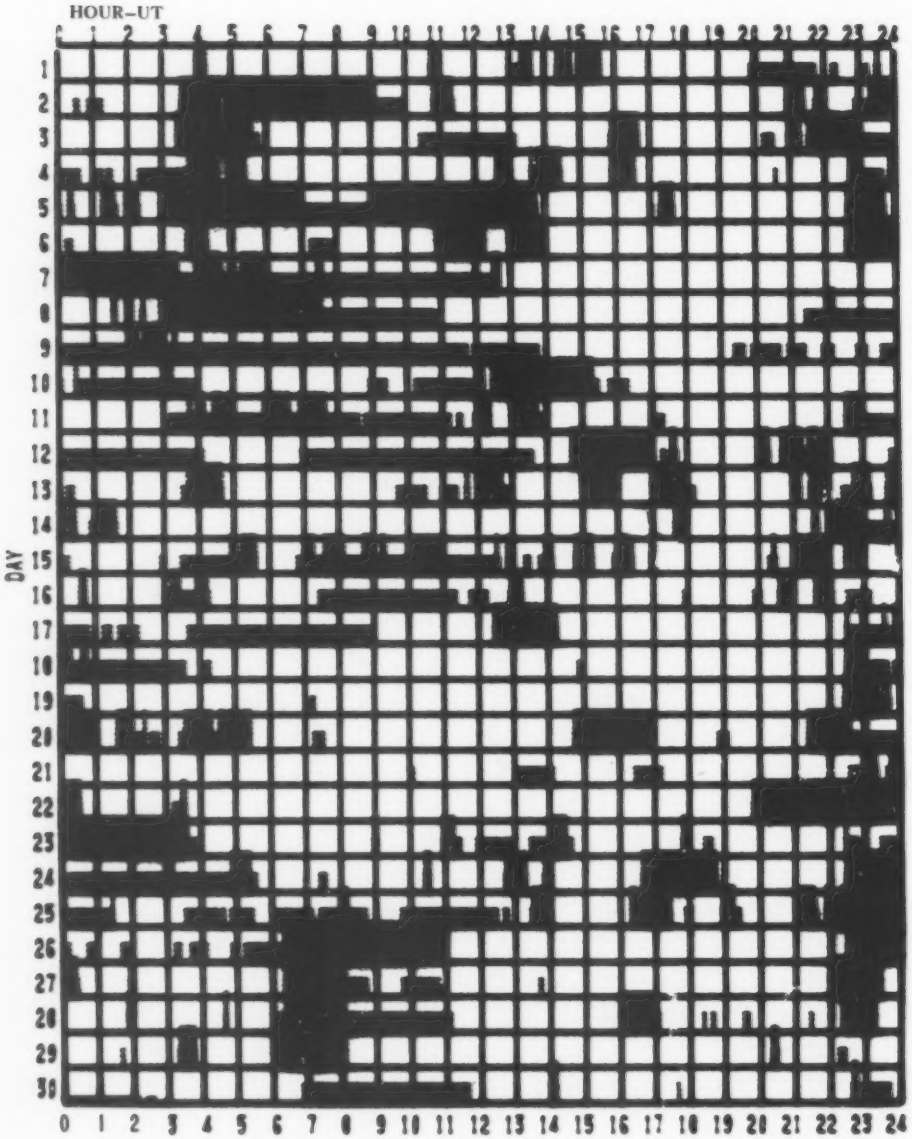
NOVEMBER 1974

01	1718E	N11 E85	01	1754	N12 E80	01	2244	N12 E73	02	1008	S10 W32	02	1013	N 8 E68
02	1455	N13 E64	02	2043	N10 E61	02	2219	N18 E65	03	0101	N10 E59	03	0122E	N10 E58
03	0643	N 5 E65	03	0714E	N10 E65	03	0840	N12 E61	03	0841E	N 8 E60	03	1213E	N14 E57
03	1741	N16 E49	03	1742	N14 E48	03	2031	N 8 E55	03	2044	N10 E55	04	0540	N 9 E52
04	0700	N14 E40	04	0708	N16 E38	04	0907	N14 E38	04	1037	S14 W76	04	1045	N16 E48
04	1057	N14 E37	04	1105E	N15 E43	04	1534	N10 E34	04	2042E	N13 E38	04	2047	N13 E32
04	2050	N14 E35	04	2318E	S 7 W69	05	0038	N 7 E41	05	1910	S11 W78	05	1951	S10 W81
05	2154	S13 W82	05	2227	S11 W89	05	2231E	S10 W82	05	2352	S12 W82	06	0704E	S 9 W87
06	0740E	S 9 W88	06	1218	S14 W90	06	2105	S10 W81	06	2158	N 8 E13	07	1500	N 9 W 6
07	1522	N14 W 1	07	1523	N14 W02	07	1543E	N14 W 1	07	1935	N12 W 5	07	2055	N12 W 4
07	2104	N12 W 8	07	2106	N11 W 3	07	2213	N12 W 5	07	2213	N13 E 8	07	2240	N17 W 6
08	0037	N12 W10	10	2059	N12 W44	11	0830	N08 E04	11	0836E	N 9 E 4	11	1624	N 4 W21
15	1415	N10 E80	15	1415E	N11 E77	16	0600	N15 E75	16	1153	N37 W77	16	2000E	N37 W79
16	2249E	N37 W81	16	2250E	N37 W78	17	0218	N18 E63	18	0046E	N11 E47	18	0050E	N17 E46
18	0355	N17 E43	18	0357E	N17 E42	18	0736E	N17 E45	18	1226	N12 E90	18	1639	N13 E90
18	2228	N15 E38	18	2238E	N15 E39	18	2335E	N11 E90	19	0056	N 2 E59	19	0057E	N02 E59
19	0450E	N12 E90	19	0746	N 8 E90	19	0858	N 8 E90	19	1232	N 7 E90	19	1830	N18 E25
19	1837	N19 E25	19	1839E	N18 E25	20	1333	N12 E74	21	0125E	N 4 E33	21	0128	N10 E59
21	0131E	N14 E55	21	0147	N 2 E33	21	0148E	N02 E33	21	0309	N 4 E32	21	0635	N10 E58
21	1612	N 4 E24	21	1814E	N 4 E23	21	1854	N 6 E49	21	2011E	N 2 E22	22	0137	N14 W05
22	1600	N02 E10	23	0500E	N01 E02	23	0516	N15 W21	23	1119	N 6 E25	23	2304	N11 E26
23	2304	N11 E26	23	2311E	N09 E27	24	0212	N06 E22	24	0605	N 3 W10	24	0606	N01 W11
24	0623	N 7 E18	24	0944	N 3 W13	24	1133	N 3 W14	24	2013	N12 W49	24	2119	N10 W46
25	0028	N12 W51	25	0045	N13 W49	25	0200E	N14 W51	26	1422	N11 W68	27	0810E	N15 W78
28	1744	N 4 W40	30	0551	N03 W52									

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

NOVEMBER 1974



Obsèrvatories included in total patrol:

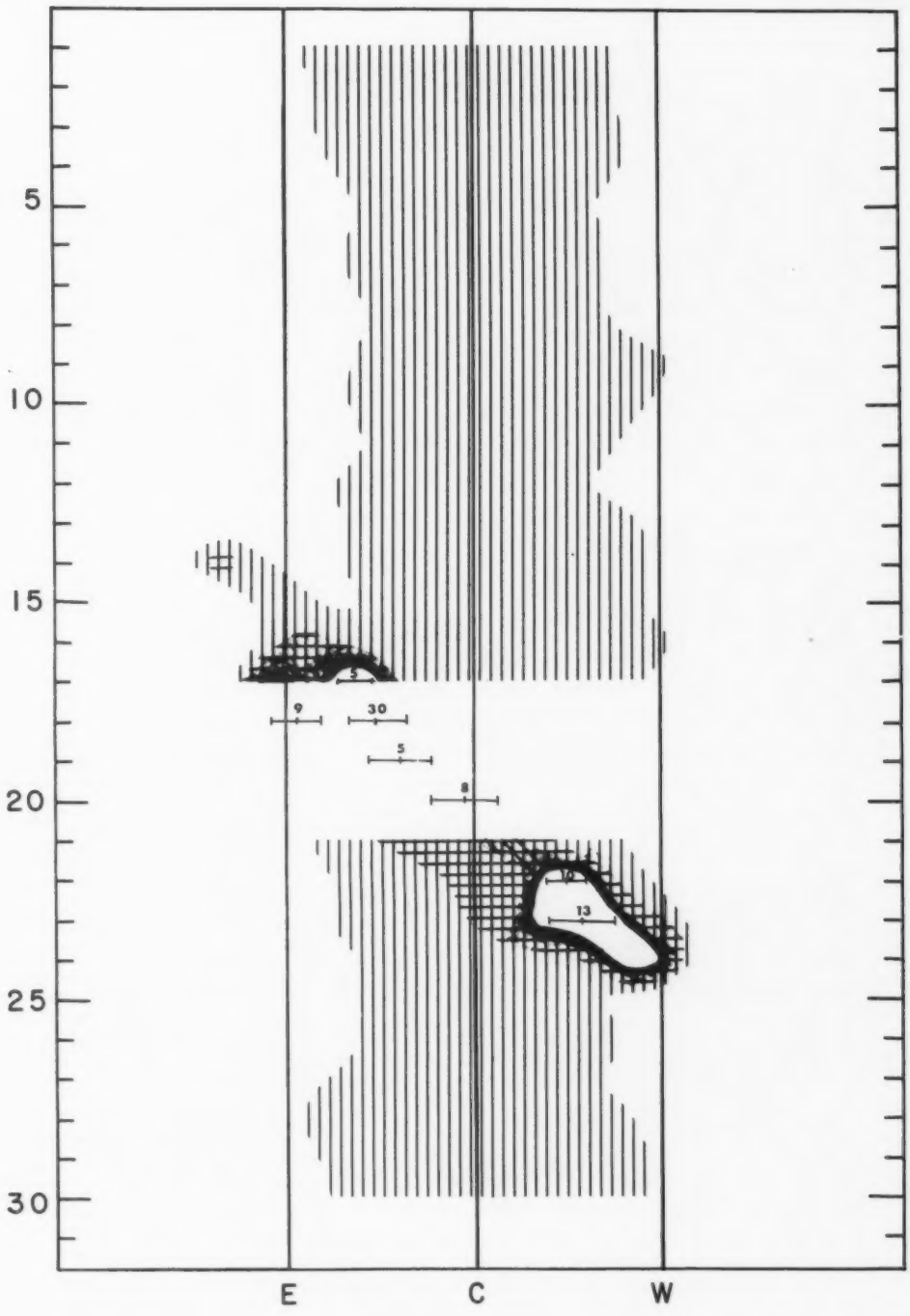
Arcetri	Bucharest	McMath-Hulbert	Ramey	Wendelstein
Athenes	Herstmonceux	Mitaka	Teheren	
Boulder	Manila	Palehua	Upice	

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

NOVEMBER 1974

Nançay 169 MHz



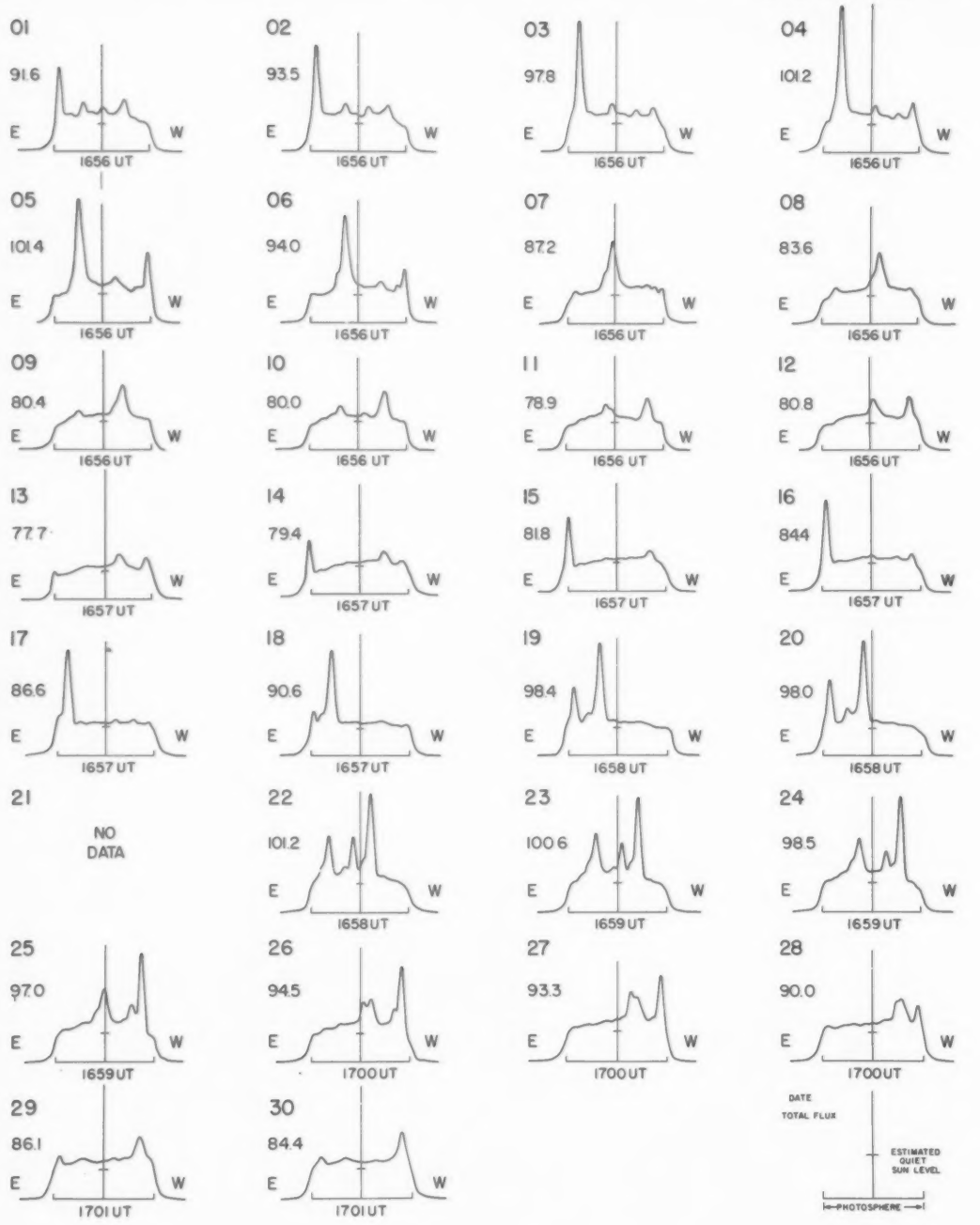
14
Nov 74

EAST - WEST SOLAR SCANS

November 1974

ALGONQUIN RADIO OBSERVATORY
CANADA

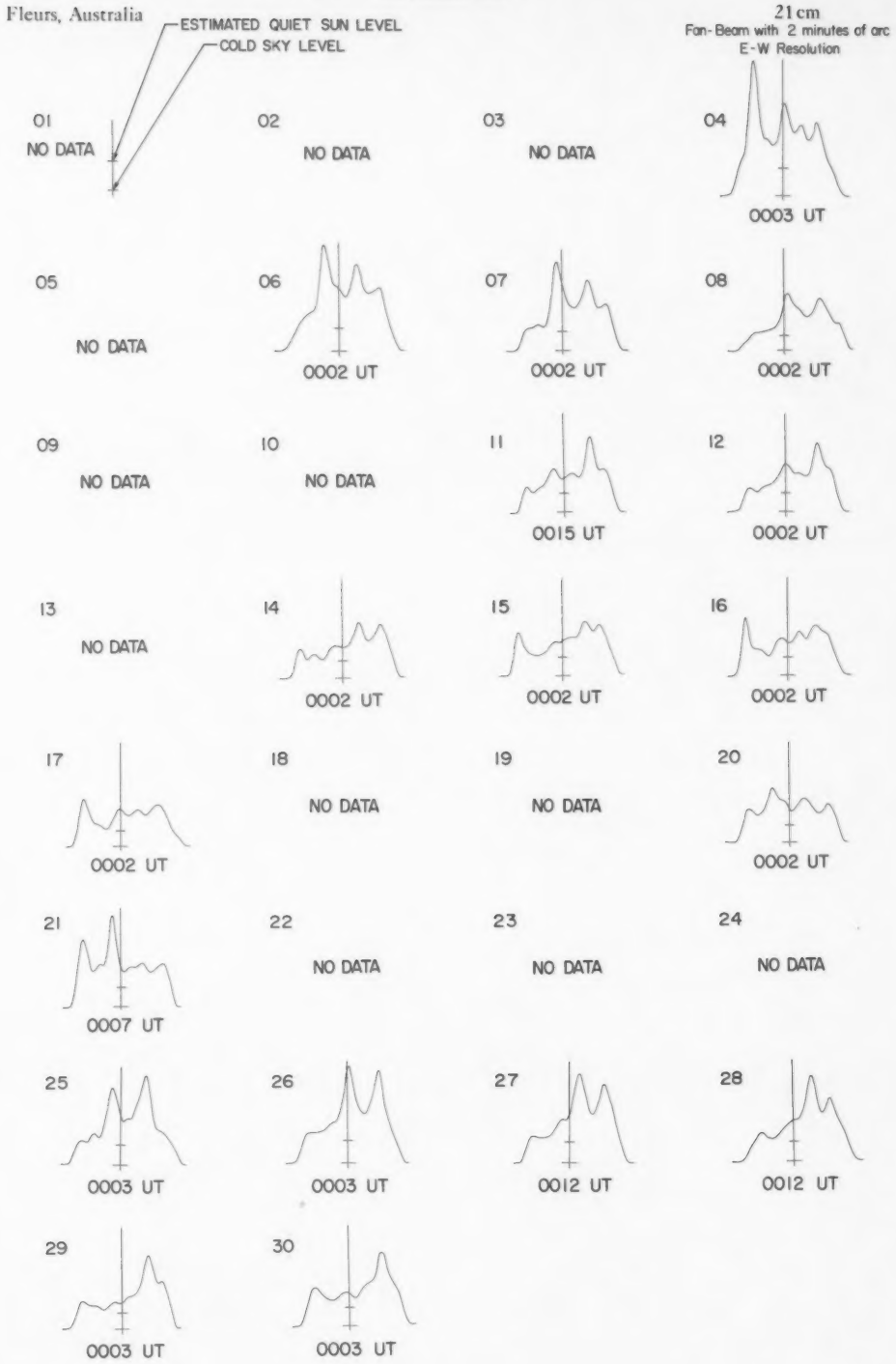
10.7 cm
Fan Beam with 1.5 minutes of arc
E - W Resolution



EAST-WEST SOLAR SCANS

NOVEMBER 1974

Fleurs, Australia



16
Nov 74

EAST-WEST SOLAR SCANS

NOVEMBER 1974

Fleurs, Australia

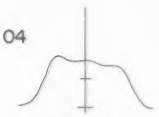
ESTIMATED QUIET SUN LEVEL
COLD SKY LEVEL

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution

01 NO DATA

02 NO DATA

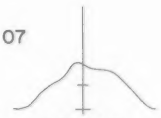
03 NO DATA



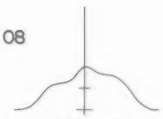
04 0005 UT

05 NO DATA

06 NO DATA



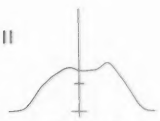
07 0005 UT



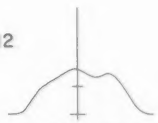
08 0055 UT

09 NO DATA

10 NO DATA

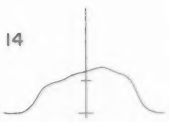


11 0014 UT

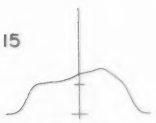


12 0004 UT

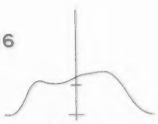
13 NO DATA



14 0004 UT



15 0004 UT

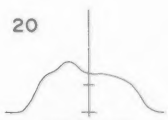


16 0004 UT

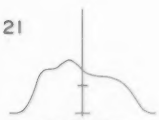
17 0004 UT

18 NO DATA

19 NO DATA



20 0004 UT

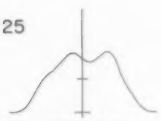


21 0004 UT

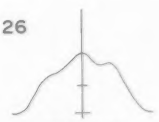
22 NO DATA

23 NO DATA

24 NO DATA

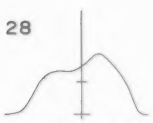


25 0005 UT

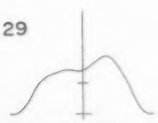


26 0005 UT

27 0005 UT



28 0015 UT



29 0006 UT

30 0006 UT

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

NOVEMBER 1974

NOV 1974	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
1	2800 OTTA	27	1425		195	.8	0.7		
	2800 OTTA	24	1425	1500	35	.8	0.4		
	2800 OTTA	24	1500		145	.8			
	2800 OTTA	26	1725	1740	15	- .8	-0.4		
	2695 PENT	21	2043	2150	100	1.8	0.9		
	2800 OTTA	20	2056	2058.5	28	2.6	1.1		
2	2800 OTTA	25	1240	2000	440	3.8			
	2800 OTTA	20	1255		125	2.8	1.6		
	2800 OTTA	20	1612	1620	30	1.6	0.8		
	2800 OTTA	1	1727	1729	8	.8	0.4		
	2800 OTTA	22	1745	1840	75	1.8	0.9		
	2800 OTTA	1	1949	1949.5	1	1.6	0.8		
	2800 OTTA	24	2000		60	3.8			
	2695 PENT	24	2100	2125	25	5.0	2.5		
	2695 PENT	24	2125		100 D	50.0			
3	2800 OTTA	25	1741	1810	29	1.8	0.9		
	2800 OTTA	3	1741.2	1742	1.3	19.0	9.5		
	2695 SGMR	3	1741.4	1742.2	5.6	19.1	5.7		
	8800 SGMR	3	1741.7	1742.2	4.7	69.0	20.7		
	2800 OTTA	29	1742.5	1742.5	5	1.8	0.7		
	2800 OTTA	24	1810		290 D	1.8			
	2800 OTTA	20	1850	1920	110	1.8	1.2		
	2800 OTTA	3	2043	2045	3	20.0	7.0		
	2695 BOUL	8	2043	2046	6	18.0	7.0		
	2800 OTTA	29	2046	2046	8	1.8	0.9		
	2695 PENT	20	2120	2155	60	1.8	0.9		
4	2800 OTTA	20	1355		75	1.4	0.7		
	2800 OTTA	20	1700	1720	100	9.6	2.2		
	2695 PENT	24	2040	2057	17	1.8	0.9		
	2695 PENT	24	2057		120 D	1.8	0.9		
5	2800 OTTA	46	1533.7	1535.3	13.5	100.0	17.0		
	2800 OTTA		1533.7	1535.3	2.3	100.0			
	2800 OTTA		1536	1536.3	3.5	43.0			
	2800 OTTA		1539.5	1540	1.8	16.6			
	2800 OTTA		1541.3	1541.8	5.9	22.0			
	8800 SGMR	4	1533.8	1535.4	17.6	293.0U	89.0U		
	2695 SGMR	4	1533.8	1535.4	20.5	93.9	28.2		
	2695 BOUL	45	1534.5	1536 U	18.5	52.0U	17.0U		
	2800 OTTA	27	1552		90	1.2	1.1		
	2800 OTTA	24	1552	1555	3	1.2	0.6		
	2800 OTTA	24	1555		75	1.2			
	2800 OTTA	2	1644.5	1645.9	2	5.8	2.9		
	2695 BOUL	3	1645	1646.5	3.5	6.0	2.0		
	2800 OTTA	29	1646.5	1646.5	17	2.8	1.4		
	2800 OTTA	26	1710	1722	12	-1.2	-0.6		
	2800 OTTA	1	1740	1740.5	4	1.6	0.7		
6	8800 MANI	4	0308.4	0310.8	4.1	20.5	6.3		
	2695 MANI	4	0308.4	0310.8	6.4	23.3	9.7		
	8800 MANI	4	0313.7U	0339	40.3U	66.0	1.6U		
	2695 MANI	4	0317.7	0338.3	42.3	116.0	9.1		
	8800 SGMR	22	1232.7	1235.7	12.9	13.8	8.3		
	2695 SGMR	22	1230.9	1235.3	12.4	11.4	6.8		
	2800 OTTA	20	1303	1308	22	9.0	2.3		
	8800 SGMR	22	1304.7	1307.8	15.8	6.4	3.8		
	2695 SGMR	20	1304.8	1308.2	13.9	9.0	4.5		
	2800 OTTA	21	1338	1407	80	9.0	4.0		
	2695 SGMR	46	1345.7	1353.6	22	53.4	10.7		
	2695 SGMR	46		1355		45.0			
	2800 OTTA	46	1347	1352.2	17.5	47.0	17.6		
	8800 SGMR	22	1347.4	1352.5	53.8	31.3	8.8		
	2695 SGMR	29	1407.7	1407.7	34.1	7.2	2.9		
	2800 OTTA	260	1620	1710	50	-2.2	-1.1		
	2695 PENT	20	2140	2200	40	1.8	0.9		
7	2800 OTTA	41	1446	1447.1	1.5	10.6			
	2800 OTTA	8	1446	1446		5.4			
	2800 OTTA	8	1447	1447.1	.5	10.6	5.3		
	2800 OTTA	22	1500	1530	95	1.6	0.8		
10	2800 OTTA	20	1435	1442	20	1.0	0.5		
	2800 OTTA	21	1535	1610	105	3.2	2.0		
	2800 OTTA	1	1543	1544	2.5	4.8	1.6		
	2695 SGMR	1	1543.3	1543.8	3.3	3.9	1.6		
	2695 BOUL	8	1544.5	1545	2	6.0	2.0		
11	2800 OTTA	1	1624	1625	5	1.4	0.6		
	2695 BOUL	3	1625	1626	2	3.0	1.0		
16	2695 PENT	1	2131.5	2133	4	1.4	0.7		
17	2800 OTTA	1	1533	1535.5	5	1.4	0.7		
	2800 OTTA	1	1727.2	1729	4.5	1.4	0.7		
18	8800 MANI	1	0355.7	0356.6	1.1	9.3	1.9		
	2695 MANI	1	0356.2	0356.5	1.3	2.6	.9		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

NOVEMBER 1974

NOV 1974	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
	2800	OTTA	25	2005	2115	70	2.2	1.1		
	2800	OTTA	20	2016	2024	16	1.2	0.6		
	2695	PENT	24	2115		60 D	2.2			
	2695	PENT	1	2228.2	2229	2	2.6	1.3		
19	2800	OTTA	20	1305	1350	195	5.6	2.8		
	2800	OTTA	27	1735		95	.8	0.7		
	2800	OTTA	24	1735	1740	5	.8	0.4		
	2800	OTTA	24	1740		80	.8			
	2800	OTTA	26	1900	1910	10	- .8	-0.4		
21	2695	PENT	20	2030	2035	30	2.0	1.0		
	2695	PENT	1	2040	2040.5	1	1.0	0.7		
22	2800	OTTA	20	1345		15 D	1.0			
	2800	OTTA	20	1414	1425	19	2.2	1.4		
	2800	OTTA	27	1442		52	1.2	1.0		
	2800	OTTA	24	1442	1445	3	1.2	0.6		
	2800	OTTA	24	1445		35	1.2			
	2800	OTTA	26	1520	1534	14	-1.2	-0.6		
	2800	OTTA	24	1540	1657	77	4.4	2.2		
	2800	OTTA	24	1657		300 D	4.4			
26	2695	PENT	8	2118.2	2118.7	.8	5.0	2.0		
	2695	BOUL	8	2118.5	2119.5	1	4.0	1.0		
	2695	PENT	8	2144.5	2144.5		1.2			
	2695	PENT	2	2205	2205.2	1	3.4	1.7		
	2695	BOUL	8	2205	2206	1.5	8.0	3.0		

Observatories:

BOUL = Boulder MANI = Manila OTTA = Ottawa ARO PENT = Penticton SGMR = Sagamore Hill

Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

PIONEER IX

NOVEMBER 1974

Date Nov. 1974	DSN Coverage (UT)	Data Time (UT)	ESP (°)	SOLAR WIND[1]				IP E-FIELD[2]	IMF[3]		COSMIC RAY PROTONS[4] (particles/sec)	
				U_{H^+} (km/sec)	N_{H^+} (H^+/cc)	T_{H^+} ($\times 10^{6}$°K)	TAU (days)	400 Hz (mv)	|B| (γ)	φ (°)	>13.9 Mev	>40 Mev
2	0536-1029	0600	-114.7	657.	---	0.3	-8.1	0.304	10.3	315.	5.5	1.11
			(0658 thru 0937 data gap due to station difficulties)									
		1000		---	---	---		.34	10.	350.	5.53	1.17
5	0528-1029	0600	-116.2	---	---	---	-8.3	.172	5.2	277.	5.33	1.09
		0700		765.	---	.31		.163	8.4	320.	5.32	1.03
		0800		729.	---	.22		.122	8.2	326.	5.46	1.01
		0900		832.	---	.37		.18	4.1	333.	5.4	.95
		1000		769	---	---		.155	6.6	002.	5.35	1.07
13	0623-0951	0700	-119.3	552.	---	.22	-8.3	.198	7.8	012.	5.22	1.04
		0800		555.	---	---		.267	7.6	350.	5.11	1.19
		0900		546.	---	---		.281	6.7	005.	5.19	1.07
		1000		532.	---	.21		.289	7.4	348.	5.07	.89
16	0637-1032	0700	-120.7	520.	---	---	-8.4	.214	6.5	142.	4.96	1.06
		0800		488.	---	.155		.281	3.5	259.	5.03	1.14
		0900		459.	---	---		.312	5.9	334.	5.01	1.18
		1000		430.	---	---		.278	5.6	338.	496	1.11
17	0613-1102	0600	-121.1	516.	---	.19	-8.4	.251	2.3	153.	4.84	.94
		0700		542.	---	.12		.212	5.	071.	4.96	1.13
		0800		489.	---	---		.22	5.6	188.	4.93	1.34
		0900		503.	---	.16		.222	5.8	137.	4.83	.96
		1000		504.	---	.16		.215	6.5	120.	4.89	1.37
19	0608-1102	0600	-122.	453.	---	---	-8.4	.198	11.3	093.	4.97	1.17
		0700		457.	---	.095		.217	11.	084.	4.93	1.14
		0800		429.	---	.107		.178	7.7	112.	5.04	1.27
		0900		437.	---	.121		.212	9.6	118.	4.99	1.04
		1000		406.	---	.117		.19	11.2	158.	4.97	1.03
23	0632-0857	0700	-124.	521.	---	---	-8.6	.331	8.3	119.	5.54	1.04
		0800		506.	---	.125		.263	8.4	144.	5.49	1.

[1] Wolfe - NASA/ARC
[2] Scarf - TRW, Inc.
[3] Sonett and Colburn - NASA/ARC
[4] Webber - Univ. of N.H.

ESP = Earth-Sun Probe Angle.

Note: Data sampled hourly unless otherwise noted.

SOLAR X-RAY RADIATION

The Space Environment Monitor (SEM) aboard the Synchronous Meteorological Satellite (SMS) includes a 1/2 to 4 Å x-ray ion chamber and a 1-8 Å chamber. SMS-1, the first of a series of 5 geostationary satellites, is stationed over Brazil. The SEMs data are recorded, processed and disseminated in real time by the Space Environment Services Center (303-499-1000, Ext 3204) of the NOAA Space Environment Laboratory in Boulder, Colorado. Further details of the SEM system are given in The SMS/GOES Space Environment Monitor Subsystem by R. N. Grubb, NOAA ERL=SEL Tech. Rept., to be published. The x-ray ion chambers are described in Calibration of X-Ray Ion Chambers For The Space Environment Monitoring System by A. Unzicker and R. F. Donnelly, NOAA SEL Preprint No. 122.

The 1-8Å ion chamber has 800 mm Hg of Argon as a filler gas and a beryllium window that is 5×10^{-5} m thick with an x-ray viewing area of 1.9×10^{-4} m^2. The listed 1-8Å flux is based on a gray-body spectrum of 3×10^6 °K, which gives an average transfer function in good agreement with gray-body or free-free thermal spectra with temperatures in the range 3 to 100×10^6 °K. The 1/2 - 4 Å ion chamber has 180 mm Hg of Xenon as a filler gas, with a beryllium window that is 5×10^{-4} m thick with an area of 5.8×10^{-4} m^2. The listed 1/2-4Å flux is based on a 10^7 °K gray body spectrum.

The average x-ray flux values include data obtained during solar flares. Low values of the x-ray flux are contaminated by a photoelectric effect and by particle interference during solar proton events, therefore, no flux values below 10^{-7} W m^{-2} for the 1-8Å detector or 10^{-8} W m^{-2} for the 1/2-4Å detector are reported. A "B" in the hourly average table indicates the flux was below these cut-off levels. An "M" in these tables denotes periods of missing data. The hourly average flux values are averages of 5 minute averaged data. The daily average values are averages of the one-hour averaged data. The list of events does not include events with a maximum flux less than 3×10^{-6} W m^{-2} in the 1-8Å channel. The end of a flare is taken as that time when the 1-8Å flux enhancement above the preflare level has decreased to half its maximum value. Often an active region will remain bright after a flare or the x-ray flux will remain above the preflare value long after the half peak-enhancement end time.

SOLAR X-RAYS
SMS-
NOVEM

.5 - 4Å Hourly Averages (10^{-6} watts/m^2 /sec)

DA	1	2	3	4	5	6	7	8	9	10	11	12	1
1	B	B	B	B	B	B	B	B	B	B	B	B	
2	B	B	B	B	B	B	B	B	B	B	B	B	
3	B	B	B	B	B	B	B	B	B	B	B	B	
4	B	B	B	B	B	B	B	B	0.03	B	B	B	
5	B	B	B	B	B	B	B	B	B	B	B	B	
6	B	0.02	B	0.15	B	B	B	B	B	B	B	B	0
7	B	B	B	B	B	B	B	B	B	B	B	B	
8	B	B	B	B	B	B	B	B	B	B	B	B	
9	B	B	B	B	B	B	B	B	B	B	B	B	
10	B	B	B	B	B	B	B	B	B	B	B	B	
11	B	B	B	B	B	B	B	B	B	B	B	B	
12	B	B	B	B	B	B	B	B	B	B	B	B	
13	B	B	M	M	B	B	B	B	B	B	B	B	
14	B	B	B	B	B	B	B	B	B	B	B	B	
15	B	B	B	B	B	B	B	B	B	B	B	B	
16	B	B	B	B	B	B	B	B	B	B	B	B	
17	B	B	B	B	B	B	B	B	B	B	B	B	
18	B	B	B	B	B	B	B	B	B	B	B	B	
19	B	B	B	B	B	B	B	B	B	B	B	B	0
20	B	B	B	B	B	B	B	B	B	B	B	B	
21	B	B	B	B	B	B	B	B	B	B	B	B	
22	B	B	B	B	B	B	B	B	B	B	B	B	
23	B	B	B	B	B	B	B	B	B	B	B	B	
24	B	B	B	B	B	B	B	B	B	B	B	B	
25	B	B	B	B	B	B	B	B	B	B	B	B	
26	B	B	B	B	B	B	B	B	B	B	B	B	
27	B	M	M	M	M	M	M	M	M	M	M	M	
28	B	B	B	B	B	B	B	B	B	B	B	B	
29	B	B	B	B	B	B	B	B	B	B	B	B	
30	B	B	B	B	B	B	B	B	B	B	B	B	

YS BY SATELLITE
S–1 GOES
EMBER 1974

13	14	15	16	17	18	19	20	21	22	23	24	MEAN
B	B	B	B	B	B	B	0.05	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	0.42	0.02	B	B	B	B	B	B	B	0.02
0.06	0.03	0.02	B	B	B	0.01	B	B	B	B	B	0.01
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	M	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
0.01	0.01	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
M	M	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B

21
Nov 74

SOLAR X-RAYS
SMS-
NOVEM

1 - 8Å Hourly Averages (10^{-5} watts/m^2 /sec)

DA	1	2	3	4	5	6	7	8	9	10	11	12
1	B	B	B	B	B	B	B	B	B	B	B	B
2	B	B	B	B	B	B	B	B	B	B	B	B
3	B	B	B	B	B	B	B	B	B	B	B	B
4	B	B	B	B	B	B	B	0.02	0.05	0.02	0.01	B
5	B	B	B	B	B	B	B	B	B	B	B	B
6	B	0.03	B	0.14	0.02	B	0.01	B	B	B	B	B
7	B	B	B	B	B	B	B	B	B	B	B	B
8	B	B	B	B	B	B	B	B	B	B	B	B
9	B	B	B	B	B	B	B	B	B	B	B	B
10	B	B	B	B	B	B	B	B	B	B	B	B
11	B	B	B	B	B	B	B	B	B	B	B	B
12	B	B	B	B	B	B	B	B	B	B	B	B
13	B	B	M	M	B	B	B	B	B	B	B	B
14	B	B	B	B	B	B	B	B	B	B	B	B
15	B	B	B	B	B	B	B	B	B	B	B	B
16	B	B	B	B	B	B	B	B	B	B	B	B
17	B	B	B	B	B	B	B	B	B	B	B	B
18	B	B	B	B	B	B	B	B	B	B	B	B
19	B	B	B	B	B	B	B	B	B	B	B	B
20	B	B	B	B	B	B	B	B	B	B	B	B
21	B	B	B	B	B	B	B	B	B	B	B	B
22	B	B	B	B	B	B	B	B	B	B	B	B
23	B	B	B	B	B	B	B	B	B	B	B	B
24	B	B	B	B	B	B	B	B	B	B	B	B
25	B	B	B	B	B	B	B	B	B	B	B	B
26	B	B	B	B	B	B	B	B	B	B	B	B
27	B	M	M	M	M	M	M	M	M	M	M	M
28	B	B	B	B	B	B	B	B	B	B	B	B
29	B	B	B	B	B	B	B	B	B	B	B	B
30	B	B	B	B	B	B	B	B	B	B	B	B

YS BY SATELLITE
5–1 GOES
EMBER 1974

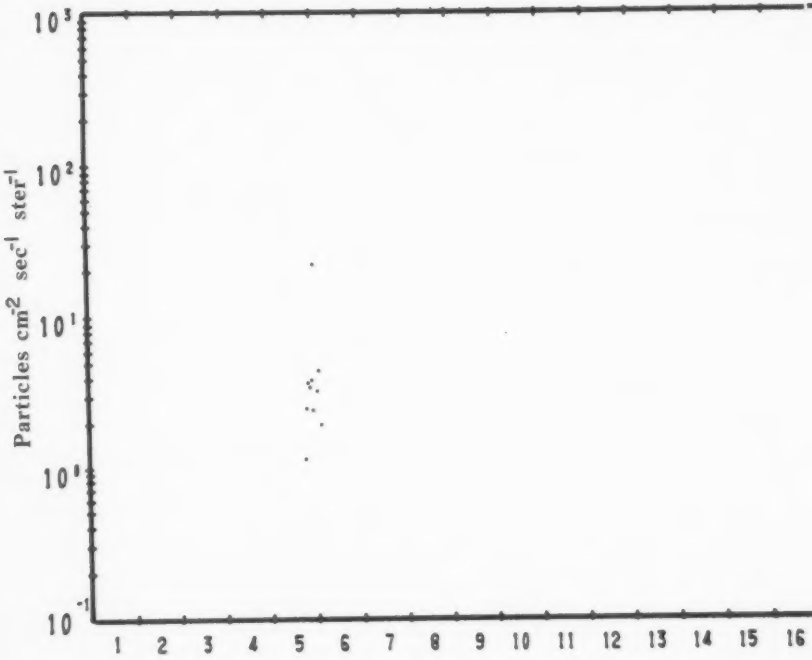
13	14	15	16	17	18	19	20	21	22	23	24	MEAN
B	B	B	B	B	B	0.04	0.12	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	0.23	0.04	B	B	B	B	B	B	B	0.02
0.08	0.06	0.05	B	B	0.02	0.03	B	B	0.02	B	B	0.02
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	M	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
0.03	0.05	0.03	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
M	M	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B

SOLAR X-RAYS BY SATELLITE
SMS-1 GOES
NOVEMBER 1974

DAY	BEGIN TIME	.5-4A	1-8A	MAX TIME	.5-4A	1-8A	1/2P TIME	.5-4A	1-8A
15	0540	0.0E+00	1.3E-09	0602	4.2E-07	4.3E-06	0607	2.2E-08	2.2E-06
19	1115	0.0E+00	7.6E-08	1245	3.6E-07	6.3E-06	1416	3.2E-09	3.2E-06

Note: No data were retained for the purpose of event determination for the first fourteen days of November.

>10 MEV PROTONS F
Preliminary Raw
NOVEMB



24
Nov 74

S FROM NOAA 2 AND 3

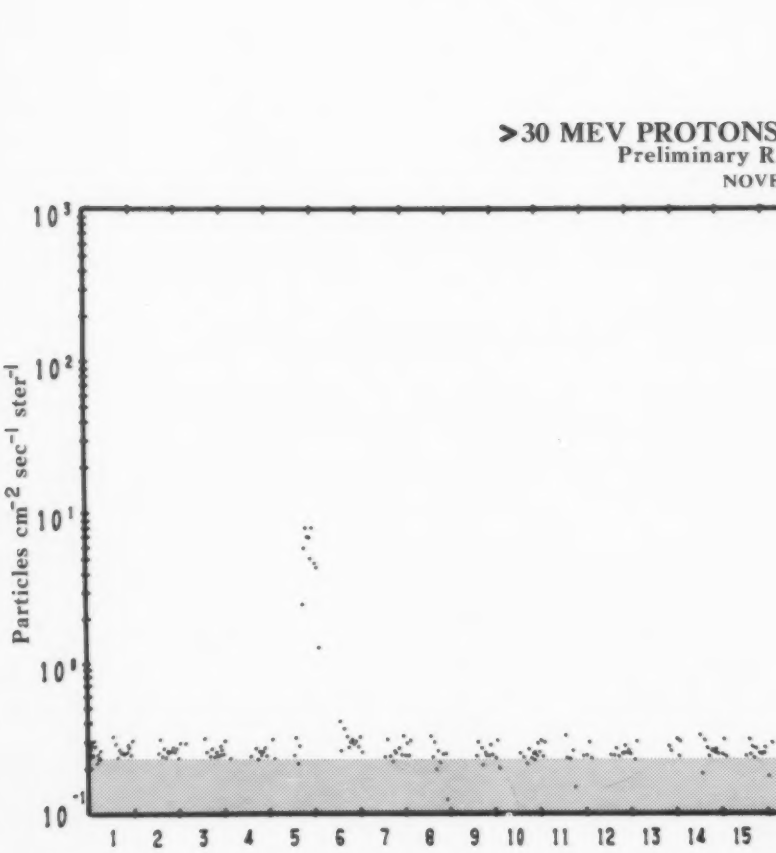
aw Data - Polar Cap

MBER 1974

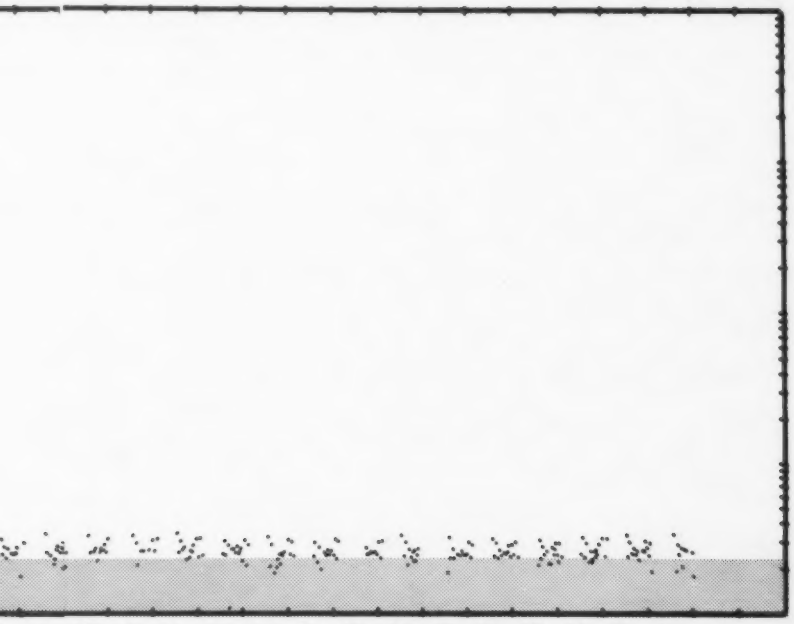
16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

Day

>30 MEV PROTONS
Preliminary R
NOVE



NS FROM NOAA 2 AND 3
y Raw Data - Polar Cap
OVEMBER 1974



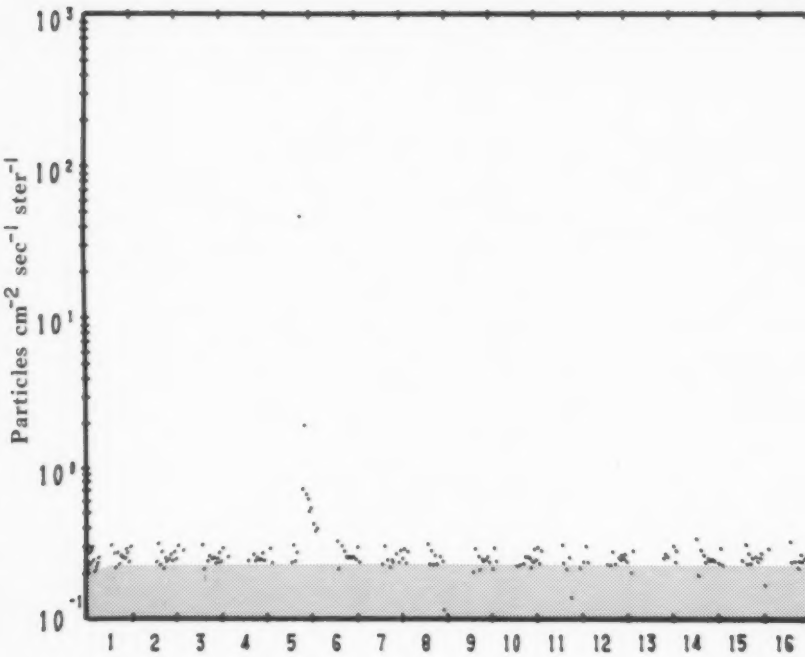
6 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
Day

25
Nov 74

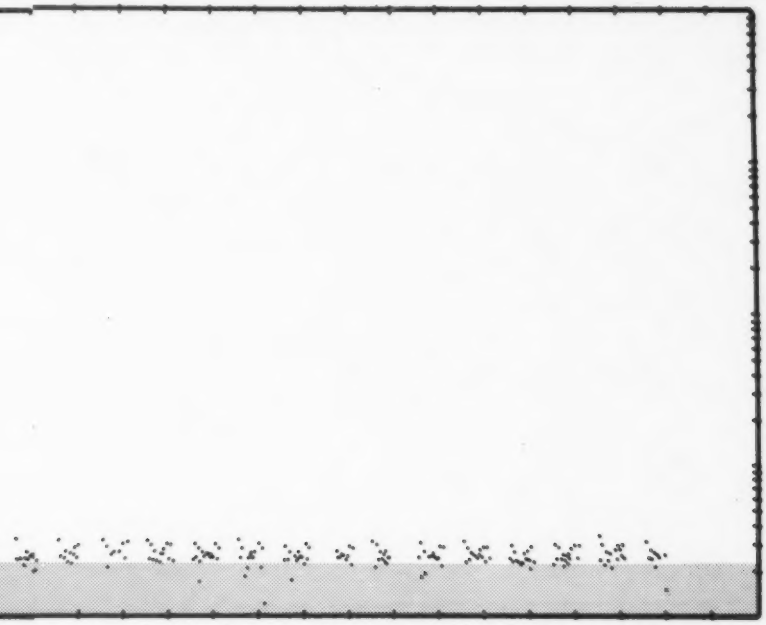
>60 MEV PROTONS F

Preliminary Raw

NOVEMI



S FROM NOAA 2 AND 3
aw Data - Polar Cap
EMBER 1974



16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
Day

INFERRED IP MAGNETIC FIELD

BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1896	1972 MAR 10	A	A	A	A	A	A	A	A	A	A	T	A	T	A	T	A	T	A	A	A	A	A	T	T	T	T	T	T	T	T	T	T	T	A	T	A	A	A	A
1897	APR 6	A	A	T	T	T	T	A	A	A	T	T	T	T	T	T	T	A	T	T	T	T	T	T	T	T	T	T	T	T	A	A	A	T	T	T	T	A	T	A	A	A
1898	MAY 3	A	A	A	A	A	A	T	-	A	A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	A	A	T	A	A	T	A	A	T	A	A	A	T	T	A	A	T	T
1899	MAY 30	A	A	A	A	A	*	A	A	A	T	*	T	T	T	T	A	A	T	T	T	T	T	A	T	A	A	A	-	A	-	T	A	-	A	-	A	-	T	T	T	-	A	A	A	T	T	T	T	T	T	T	T	A	T	A	A	A
1900	JUN 26	A	A	A	A	A	A	A	T	A	A	T	A	A	A	A	A	A	T	A	T	A	T	T	T	T	T	T	T	T	A	T	T	T	T	A	T	T	T	A	A	A	T	T	A	A	T	T	T	T	T	T	T	T	T	T	T	T	T	A	A	T	A
1901	JUL 23	T	A	A	*	T	A	A	*	T	T	A	A	A	A	A	A	A	A	A	T	A	A	*	T	A	T	T	A	A	A	A	A	A	A	A	T	A	A	*	T	A	A	T	T	A	A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	A	A	T	A
1902	AUG 19	A	-	A	-	A	A	A	A	A	A	A	A	A	A	A	T	A	T	A	A	A	A	A	A	A	A	A	A	A	A	T	T	T	T	T	T	T	T	T	A	A	A	T	A	T	A	A	A	A	A	T	A	A	A	A	A	T	A	A	A	-
1903	SEP 15	A	A	T	A	T	*	A	A	A	A	A	A	A	T	A	A	T	T	A	T	A	A	A	A	A	-	A	-	A	-	A	-	A	-	A	T	T	T	T	T	T	T	T	A	-	T	T	T	A	T	A	T	A	A	T	T	T	T	T	T	T	T	T	T
1904	OCT 12	T	T	A	-	T	A	-	A	A	*	A	T	A	T	T	A	T	A	A	A	A	A	A	T	T	A	T	A	A	A	A	T	A	T	T	A	T	A	A	A	A	T	A	T	T	T	T	A	T	A	*	T	T	T	A	-	A	A	*	T	A	T	T	T	T	A	T	A	*	A	A
1905	NOV 8	A	A	T	A	A	T	A	A	T	A	A	T	A	T	T	A	T	*	A	A	A	A	A	A	*	T	A	A	T	A	A	A	A	A	A	T	A	A	T	T	A	T	T	A	T	T	A	T	A	T	A	T	A	T	A	T	A	T	A	A	A	A	A	A	T	A	T	T
1906	DEC 5	T	T	T	T	T	A	A	T	T	-	T	-	T	T	T	T	A	A	T	A	-	T	A	T	T	A	T	T	A	-	A	T	T	T	A	A	T	T	T	T	T	T	T	T	A	A	*	A	T	T	T	T	T	T	T	T	A	A	T	A	T	T
1907	1973 JAN 1	T	T	T	T	T	T	T	T	T	A	T	T	T	A	T	A	T	-	A	T	A	A	-	A	T	A	A	A	A	A	A	A	A	A	A	A	A	A	A	T	T	A	-	T	-	T	T	T	-	T	A	T	T	-	T	T	T	T	T	T	T	T	T	T
1908	JAN 28	T	T	A	A	T	T	A	T	'	A	T	T	T	T	T	A	T	A	A	A	A	A	A	T	A	A	A	A	A	A	A	T	T	A	A	T	A	A	A	A	A	A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
1909	FEB 24	A	T	T	A	T	T	A	T	A	T	T	T	T	-	A	T	T	A	A	T	A	T	A	T	T	T	A	A	A	A	A	A	A	A	A	A	T	A	A	T	A	A	A	A	A	A	T	A	A	T	A	A	T	A	A	T	A	T	T	T	T	T	T	T	T	T
1910	MAR 23	T	T	T	T	T	T	T	T	A	T	T	T	T	T	T	T	T	A	A	T	A	T	T	A	A	A	A	A	A	A	A	A	-	A	A	P	A	T	T	A	A	A	A	A	A	A	A	T	A	T	T	-	T	-	T	T	A	T	T	T	T	A	T	T	*	T	T	*
1911	APR 19	T	T	T	A	T	T	-	A	T	T	T	A	T	T	A	A	A	T	T	T	T	T	A	A	A	A	A	T	A	*	A	A	-	A	T	A	A	A	*	-	T	A	A	T	T	A	T	T	*	-	A	T	A	A	T	T	-	A	-	T	A	A	*
1912	MAY 16	T	T	T	T	T	T	T	T	A	T	T	-	T	A	T	T	T	A	A	A	T	A	T	T	A	T	A	A	A	-	A	A	A	-	A	A	A	A	*	A	A	A	A	A	A	A	A	A	A	-	T	*	A	-	A	A	A	-	-	T	T	T	T
1913	JUN 12	T	A	T	*	-	T	*	-	T	T	T	A	T	*	A	A	T	T	-	T	*	T	T	T	T	T	T	A	T	A	T	A	T	A	A	A	A	A	A	T	A	T	*	-	T	T	-	A	A	A	A	A	A	*	A	A	T	-	T	T	A	A	-	A	T	T
1914	JUL 9	T	T	T	T	A	A	T	T	-	T	A	T	A	T	T	*	A	T	*	-	A	A	T	T	A	T	A	-	T	T	T	T	T	T	A	A	-	A	*	A	A	A	A	A	*	A	T	A	-	A	A	T	A	T	T	*	T	T	*	T	T
1915	AUG 5	T	T	A	A	A	A	T	A	T	A	A	A	A	T	T	T	*	T	T	A	T	*	T	A	T	T	A	A	T	A	A	A	A	A	A	A	A	A	A	T	A	T	T	T	T	T	A	A	A	A	A	A	A	T	T	A	A	*	A	A	A	A
1916	SEP 1	T	T	A	*	T	T	T	T	A	T	A	T	A	A	A	T	A	A	A	*	T	T	T	T	T	T	T	A	A	A	A	A	A	A	T	T	T	T	T	T	T	T	A	A	T	T	T	T	A	A	T	T	A	A	T	*	A	A	A	A	T	A	A	A	T	A	*	A	A
1917	SEP 28	A	A	*	T	A	A	T	A	T	T	T	A	A	A	A	A	A	T	A	A	T	A	*	A	T	*	A	T	A	T	T	T	T	T	T	T	*	T	T	T	T	T	*	T	T	T	T	*	T	T	A	T	T	A	A	T	-	A	*	A	A	A	A	T	A	T	A	T	T	T
1918	OCT 25	T	T	T	T	A	T	A	A	A	A	T	A	T	*	T	A	T	A	A	A	A	A	A	A	T	A	T	A	T	T	T	A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	*	A	A	A	A	T	A	T	A	A	-	A	A
1919	NOV 21	A	*	T	T	T	-	A	A	A	A	A	T	T	A	T	A	T	*	A	T	A	A	A	A	A	A	A	A	A	T	A	T	A	T	T	T	T	T	T	T	T	*	T	T	T	T	T	T	A	T	A	A	A	T	T	T	-	T	A	A	T	A	A	T	T	T
1920	DEC 18	T	T	A	T	A	A	T	A	T	A	T	A	A	T	A	*	A	A	A	*	A	T	T	T	T	T	T	T	T	*	T	T	T	T	T	T	A	T	A	T	T	T	T	T	A	T	T	A	T	T	T	T	T	A	T	T	T	T	A	T	T	T
1921	1974 JAN 14	T	A	A	T	-	T	T	A	A	T	T	A	A	A	A	A	A	-	A	A	-	A	T	-	T	T	T	T	A	T	*	T	A	T	T	T	T	T	T	A	*	A	T	T	A	T	T	A	A	T	-	T	T	T	T	T	T	T	T	A	A
1922	FEB 10	A	-	A	-	A	*	A	A	A	A	A	A	A	A	T	A	T	A	A	A	A	A	T	*	T	T	T	T	T	T	T	A	T	-	T	T	T	T	T	T	A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	A	A	A	A
1923	MAR 9	A	A	A	A	A	A	A	A	A	A	A	A	A	T	T	A	T	A	A	T	A	A	A	A	A	T	A	A	T	A	T	A	T	T	T	A	T	A	T	A	T	T	T	T	T	T	T	T	T	A	T	T	T	A	T	T	A	T	A	T	A	-	A	T	A
1924	APR 5	A	A	A	A	A	-	T	A	A	A	A	A	A	A	A	*	A	A	A	A	A	A	A	A	A	T	T	A	T	A	T	A	T	A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	A	T	A	A	A	A	-	-	-	-
1925	MAY 2	-	-	A	A	A	A	*	A	T	T	A	A	T	A	T	A	T	*	T	A	A	A	A	T	A	T	*	A	A	*	A	T	A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	A	-	-	-
1926	MAY 29	T	T	A	A	A	*	-	A	A	A	A	A	*	A	A	A	*	-	T	A	*	A	A	A	A	T	T	T	T	T	A	T	A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	A	T	*	-	T
1927	JUN 25	T	A	T	A	A	-	A	-	A	A	T	A	A	A	A	A	A	A	A	A	A	A	-	T	A	T	A	-	T	T	T	T	T	T	T	T	T	-	T	T	-	T	T	T	T	T	T	T	T	T	A	A	T	A	T	T	T	T	T	T	T	T
1928	JUL 22	T	T	A	A	A	A	A	T	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1929	AUG 18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A	-	A	T	T	T	T	T	T	T	T	T	-	T	-	A	T	T	T	T	A	T	T	T	A	-	-	T	T	T	T	-	T	-	-	-	-	-	-	-	-	-	-	-	-
1930	SEP 14	-	T	-	T	A	T	A	*	A	A	-	A	A	A	A	A	A	T	A	T	A	A	A	A	T	T	-	T	A	A	T	T	A	T	-	T	T	T	T	T	-	-	T	T	T	A	T	T	T	T	T	T	-	T	T	A	-	T	-	T	-	T
1931	OCT 11	T	T	T	A	T	A	A	A	A	-	A	-	A	-	A	A	A	T	A	A	A	A	A	-	A	T	T	-	-	-	T	T	T	T	T	T	T	T	T	T	T	-	T	T	T	T	T	T	T	T	T	T	T	T	T	A	T	T	T	T	T	T
1932	NOV 7	T	A	-	T	-	A	-	A	-	A	A	A	A	A	A	A	A	A	-	A	-	A	T	-	A	T	*	T	A	T	T	*	T	A	T	T	T	T	T	T	T	T																		

T = towards the sun
A = away from the sun
* = effect doubtful or not discernable
- = missing data

The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Anarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service operated by the Air Force Cambridge Research Laboratories at the Thule Geopole Station is used for the second half of the day.

Note: Computer problems are responsible for the considerable amount of missing data in August 1974.

OCTOBER 1974 DATA

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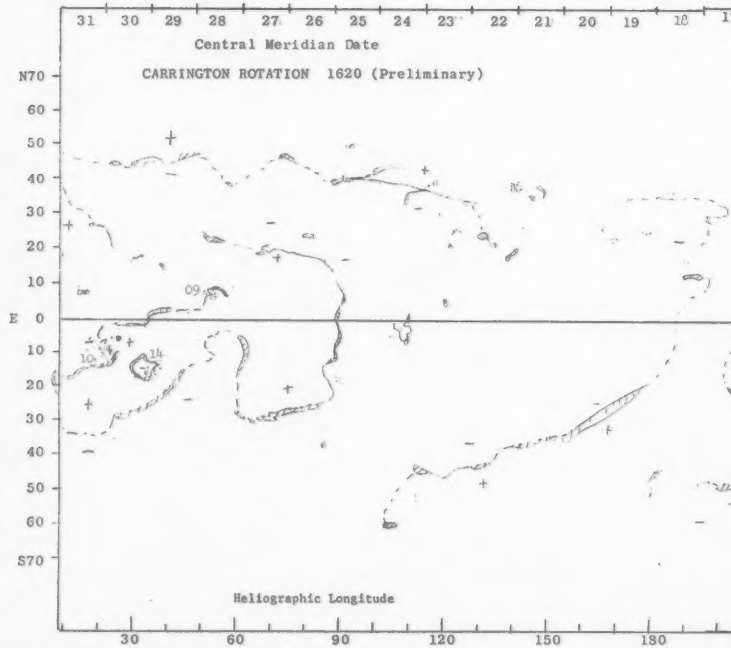
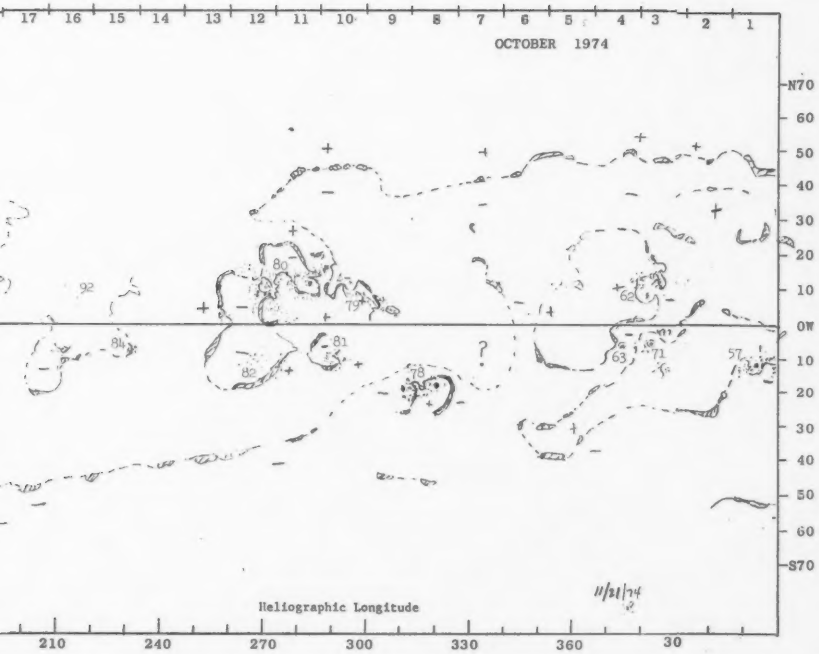
For explanations of the data contained herein see *Descriptive Text* published as supplement to February 1974 *Solar-Geophysical Data* (Number 354).

Hα SYNO


31 30 29 28 27 26 25 24 23 22 21 20 19 18
Central Meridian Date
CARRINGTON ROTATION 1620 (Preliminary)
N70
60
50
40
30
20
10
E 0
10
20
30
40
50
60
S70
09
10
14
Heliographic Longitude
30 60 90 120 150 180

NOPTIC CHART

OCTOBER 1974



31
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

McMATH-HULBE

Np

E

NO DATA

W

Intensities in Units
of 10^{6} ergs cm^{-2} sec^{-1}.

1430 UT

Sp

KITT PEAK

Np

MAGNETOG
Bright -
Dark - M

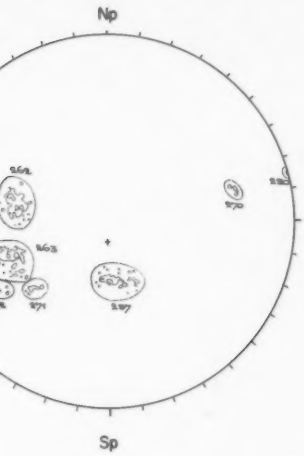
E

KITT PEAK
DATA ONLY ON
24, 25, 28, 31

Sp

= 26.00, B_o = 6.72, L_o = 58.99)

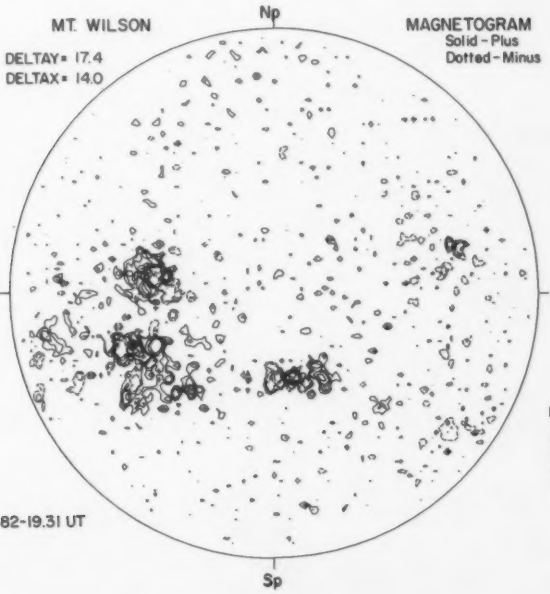
ULBERT CALCIUM REPORT



FAIR	M
57 - 1100	- 3.0
62 - 1700	- 3.0
63 - 2100	- 3.0
71 - 0400	- 3.0

TOGRAM
ght - Plus
k - Minus

MT. WILSON
DELTAY= 17.4
DELTAX= 14.0



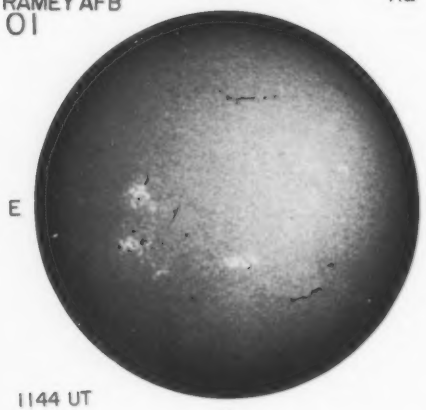
MAGNETOGRAM
Solid - Plus
Dotted - Minus

Levels
±5
±10
±20
±40
±80

17.82-19.31 UT

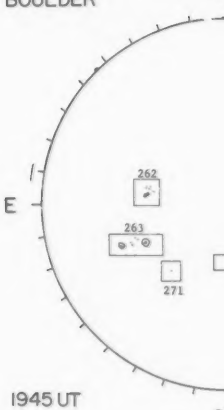
RAMEY AFB

01



1144 UT

BOULDER



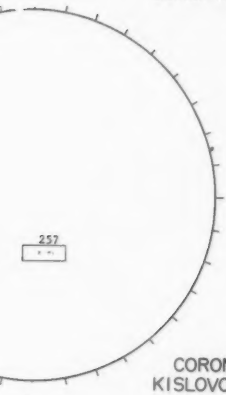
1945 UT

NELC LA POSTA

E EQUIPMENT
NO DATA EXC

Np

SUNSPOTS



CORONA
KISLOVODSK

Sp

Np

2.0 CM

ENT FAILURE
EXCEPT ON 22nd

W

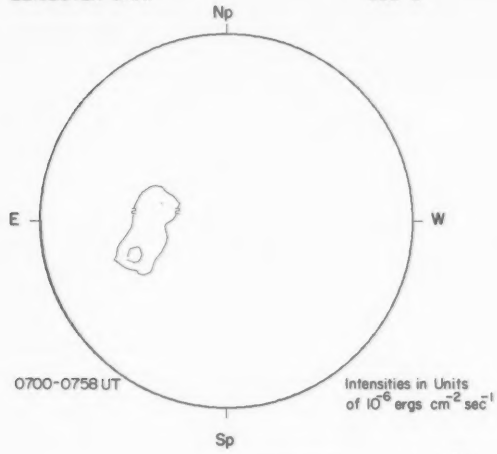
Sp

ANT. TEMP. UNIT 100° K

33
Oct 74

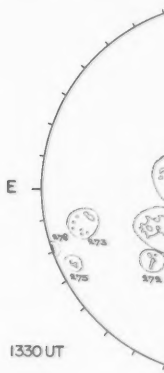
UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



KITT PEAK

McMATH-HULBER



MAGNETOGRA
Bright - Plu
Dark - Min

Np

E

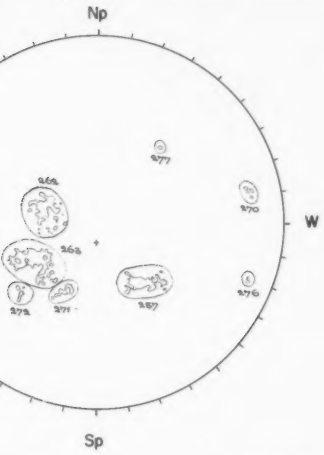
Sp

= 26.06, B_o = 6.67, L_o = 45.79)

34
Oct 74

LBERT

CALCIUM REPORT

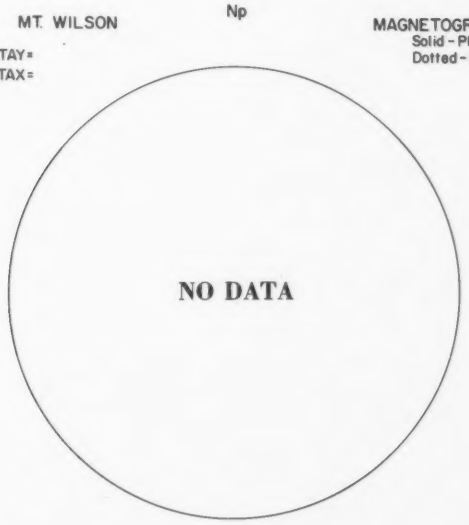


FAIR	M
57 - 1300	- 3.0
62 - 1800	- 3.0
63 - 2600	- 3.0

OGRAM
- Plus
Minus

MT. WILSON

DELTAY=
DELTAX=



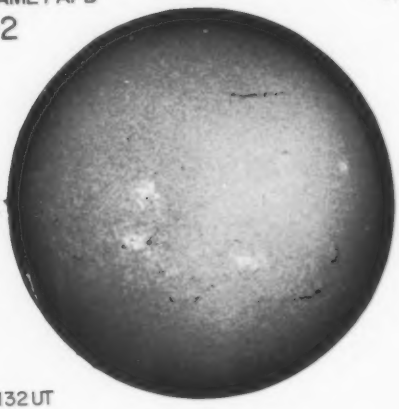
MAGNETOGRAM
Solid - Plus
Dotted - Minus

Levels
± 5
± 10
± 20
± 40
± 80

RAMEY AFB
02

Np

Hα



E

W

1132 UT

Sp

BOULDER

Np

E

1530 UT

Sp

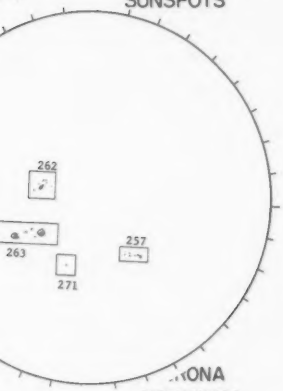
NELC LA POSTA

Np

E

S

Np



Sp

Np

2.0 CM

W

Sp

ANT. TEMP. UNIT 100° K

35
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

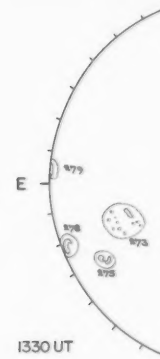
McMATH-HULBU

Np

E

NO DATA

W



Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

1330 UT

Sp

KITT PEAK

Np

MAGNETOG
Bright -
Dark - M

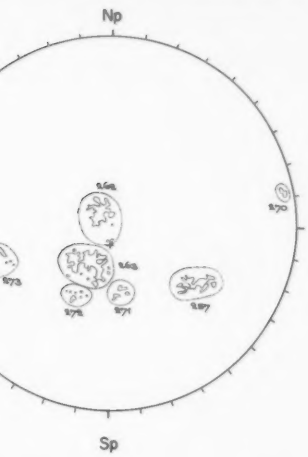
E

Sp

= 26.12, B_o = 6.62, L_o = 32.60)

36
Oct 74

ULBERT CALCIUM REPORT

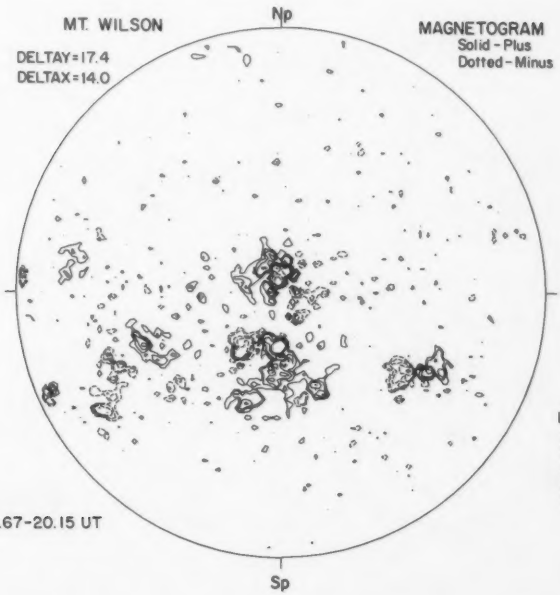


FAIR	M
57 - 1300	- 2.5
62 - 1500	- 3.0
63 - 2500	- 3.0
78 - 0900	- 2.5
79 - 0900	- 2.5

TOGRAM
ght - Plus
k - Minus

MT. WILSON
DELTAY=17.4
DELTAX=14.0

MAGNETOGRAM
Solid - Plus
Dotted - Minus



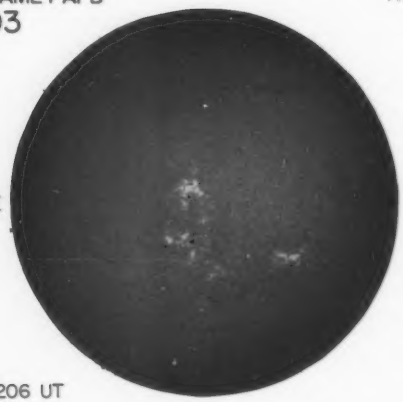
Levels
± 5
± 10
± 20
± 40
± 80

18.67-20.15 UT

RAMEY AFB
03

Np

Hα



E

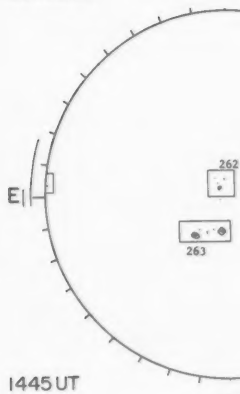
W

1206 UT

Sp

BOULDER

Np



E

1445 UT

Sp

NELC LA POSTA

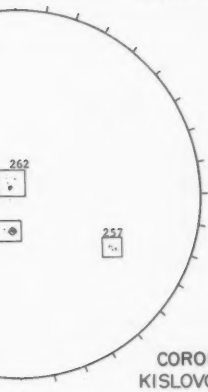
Np

E

Sp

Np

SUNSPOTS



CORONA
KISLOVODSK

Sp

2.0CM

Np

W

Sp

ANT. TEMP. UNIT 100° K

37
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

McMATH-HULB

Np

E

NO DATA

W

Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

Sp

KITT PEAK

E

1515 UT

Np

MAGNETOG
Bright -
Dark - M

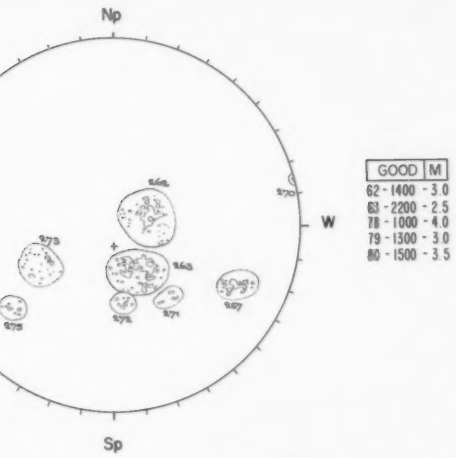
E

Sp

= 26.17, B_o = 6.57, L_o = 19.40)

38
Oct 74

ULBERT CALCIUM REPORT

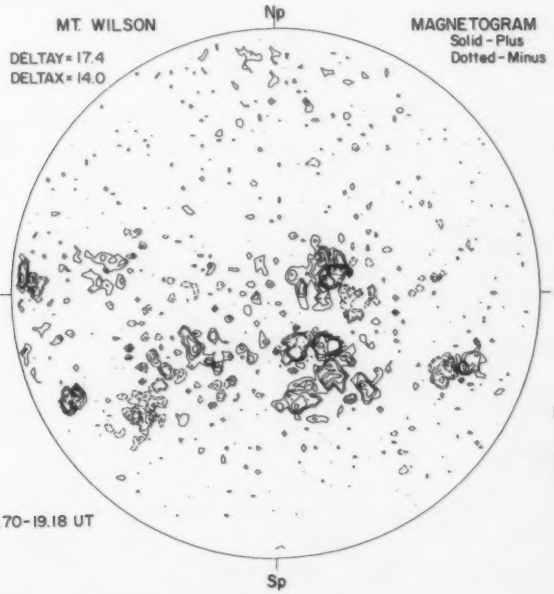


GOOD	M
62 - 1400	- 3.0
63 - 2200	- 2.5
78 - 1000	- 4.0
79 - 1300	- 3.0
80 - 1500	- 3.5

TOGRAM
ght - Plus
k - Minus

MT. WILSON
DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid - Plus
Dotted - Minus



Levels
± 5
± 10
± 20
± 40
± 80

17.70 - 19.18 UT

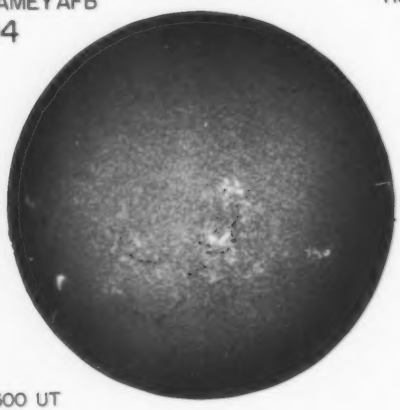
RAMEY AFB
04

Np

Hα

E

W



1300 UT

Sp

BOULDER

Np

E

280

280

278

263

1430 UT

Sp

NELC LA POSTA

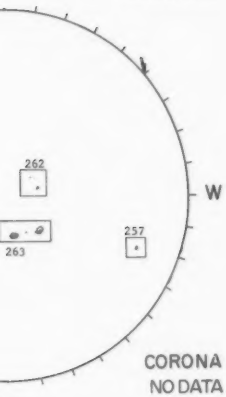
Np

E

Sp

Np

SUNSPOTS



CORONA
NO DATA

Sp

2.0 CM

Np

W

Sp

ANT. TEMP. UNIT 100° K

39
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

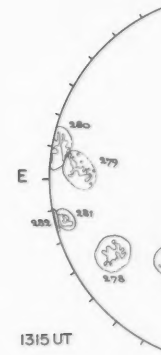
McMATH-HULBE

Np

E

NO DATA

W



Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

1315 UT

Sp

KITT PEAK

Np

MAGNETOG
Bright -
Dark - M

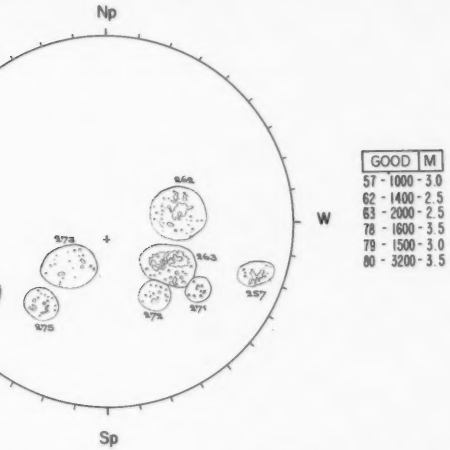
E

Sp

= 26.22, B_o = 6.52, L_o = 6.21)

40
Oct 74

ULBERT CALCIUM REPORT

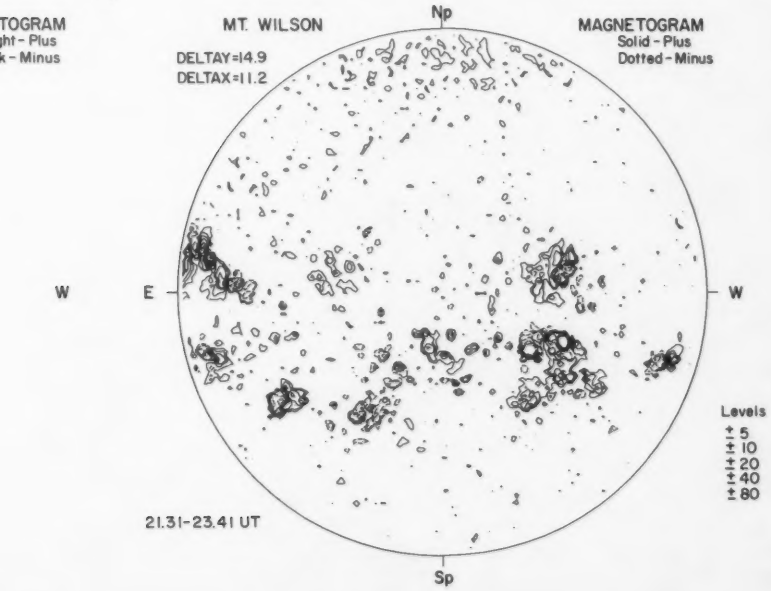


GOOD	M
57 - 1000 - 3.0	
62 - 1400 - 2.5	
63 - 2000 - 2.5	
78 - 1600 - 3.5	
79 - 1500 - 3.0	
80 - 3200 - 3.5	

TOGRAM
ght - Plus
k - Minus

MT. WILSON
DELTAY=14.9
DELTAX=11.2

MAGNETOGRAM
Solid - Plus
Dotted - Minus



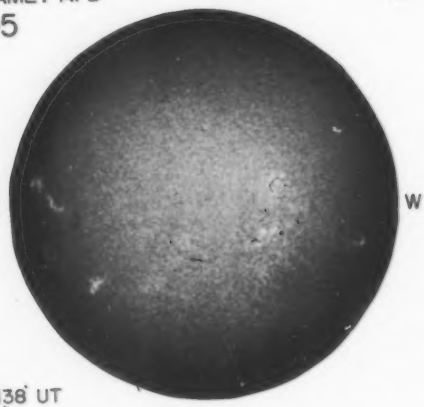
Levels
± 5
± 10
± 20
± 40
± 80

21.31-23.41 UT

RAMEY AFB
05

Np

Hα



E

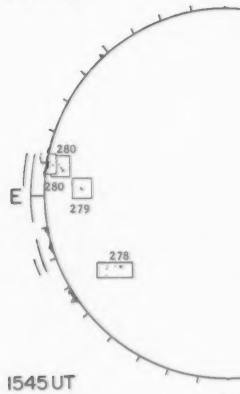
W

1138 UT

Sp

BOULDER

Np



1545 UT

Sp

NELC LA POSTA

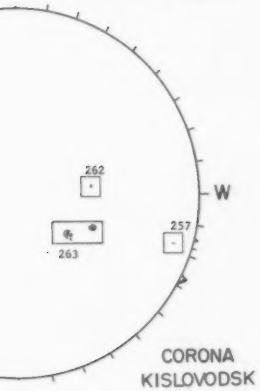
Np

E

Sp

Np

SUNSPOTS



CORONA
KISLOVODSK

Sp

Np

2.0 CM

W

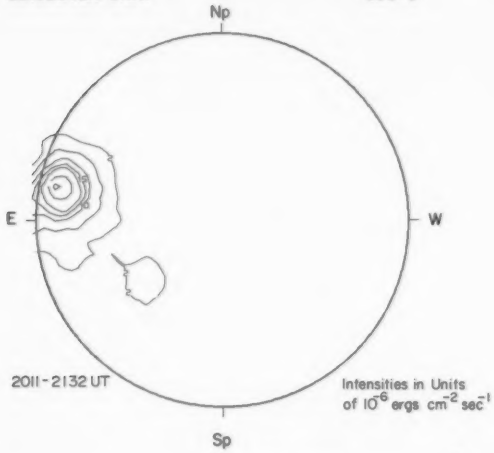
Sp

ANT. TEMP. UNIT 100° K

41
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

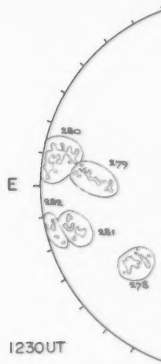


2011 - 2132 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

KITT PEAK

McMATH-HULBE



1230UT

MAGNETOGR
Bright - Pl
Dark - Mi

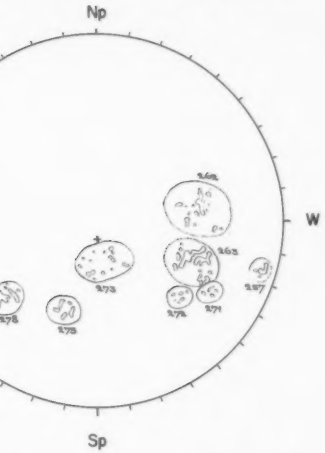
Np

E

Sp

26.25, $B_o = 6.46$, $L_o = 353.01$)

LBERT CALCIUM REPORT

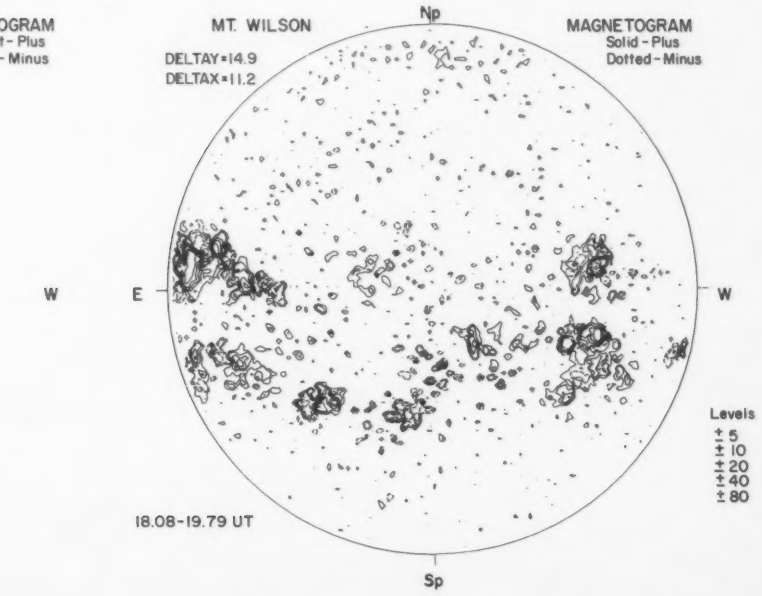


POOR	D
62 - 1400	- 3.0
63 - 1900	- 3.5
78 - 1400	- 3.5
79 - 1200	- 3.0
80 - 4000	- 3.5

OGRAM
t - Plus
- Minus

MT. WILSON
DELTAY = 14.9
DELTAX = 11.2

MAGNETOGRAM
Solid - Plus
Dotted - Minus



Levels
± 5
± 10
± 20
± 40
± 80

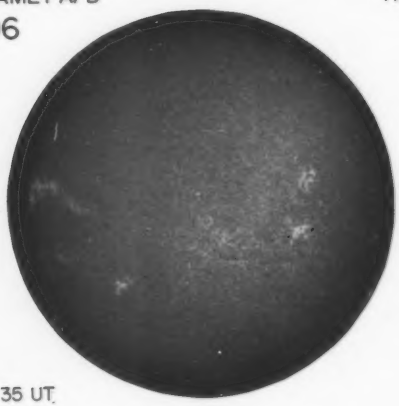
18.08-19.79 UT

RAMEY AFB

06

Np

Hα



E

W

1135 UT

Sp

BOULDER

N

E

NO DATA

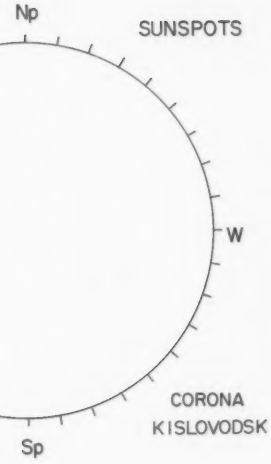
S

NELC LA POSTA

N

E

S



2.0 CM

Np

W

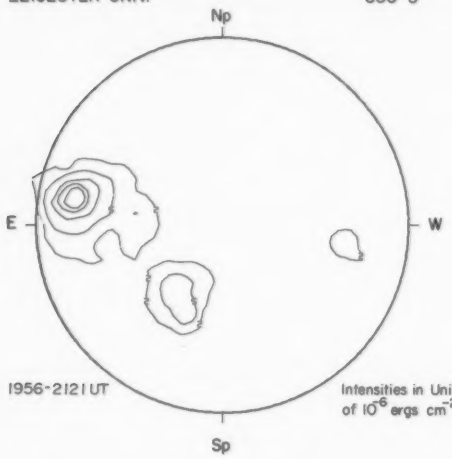
Sp

ANT. TEMP. UNIT 100°K

43
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



1956-2121 UT

Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

KITT PEAK

McMATH-HUL

1235 UT

MAGNETO
Bright
Dark -

Np

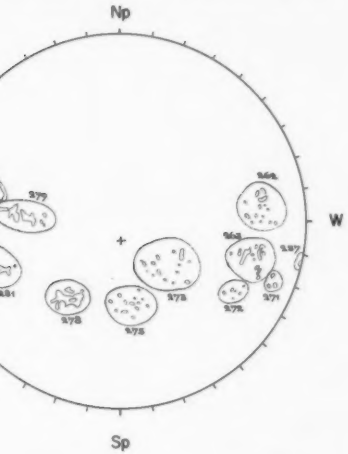
E

Sp

= 26.29, B_o = 6.40, L_o = 339.82)

44
Oct 74

HULBERT CALCIUM REPORT



FAIR	S
62 - 1200 - 3.0	
63 - 1800 - 3.0	
78 - 1400 - 3.5	
79 - 1500 - 3.0	
80 - 5300 - 3.0	

ETOGRAM
ight - Plus
ark - Minus

MT. WILSON

DELTAY=
DELTAX=

Np

MAGNETOGRAM
Solid - Plus
Dotted - Minus

W E

NO DATA

W

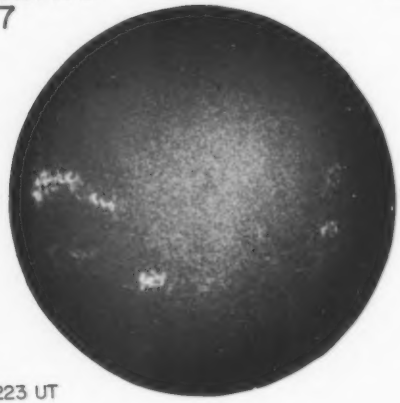
Levels
± 5
± 10
± 20
± 40
± 80

Sp

RAMEY AFB
07

Np

Hα



E

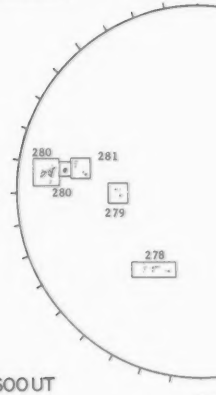
W

1223 UT

Sp

BOULDER

Np



E

1600 UT

Sp

NELC LA POSTA

Np

E

Sp

Np

SUNSPOTS

CORONA
KISLOVODSK

Sp

Np

2.0 CM

W

Sp

ANT. TEMP. UNIT 100°K

45
Oct 74

OCTOBER 8, 1974 (P = 2

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

McMATH-HULB

Np

E

NO DATA

W

Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

1330 UT

Sp

KITT PEAK

Np

MAGNETOG
Bright-
Dark - M

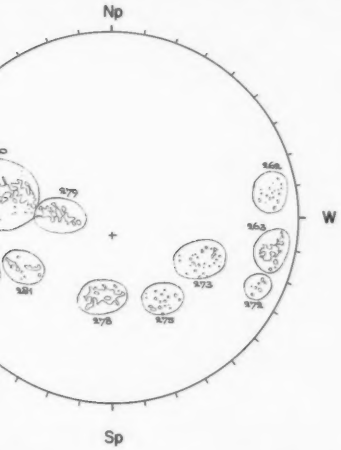
E

Sp

= 26.31, B_o = 6.34, L_o = 326.62)

46
Oct 74

ULBERT CALCIUM REPORT



FAIR	M
63 - 1600	- 3.0
78 - 1700	- 3.5
79 - 1200	- 3.0
80 - 6300	- 3.5
81 - 0700	- 2.5

TOGRAM
ght - Plus
rk - Minus

MT. WILSON

DELTAY=
DELTAX=

Np

MAGNETOGRAM
Solid - Plus
Dotted - Minus

W E

NO DATA

W

Levels
± 5
± 10
± 20
± 40
± 80

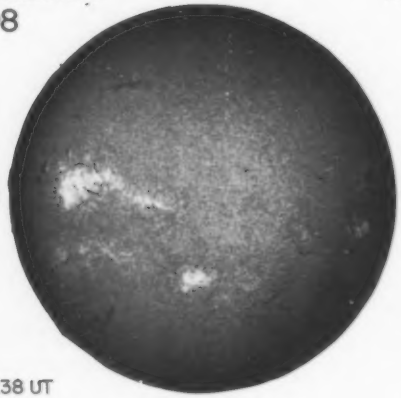
Sp

RAMEY AFB

08

Np

Hα



E

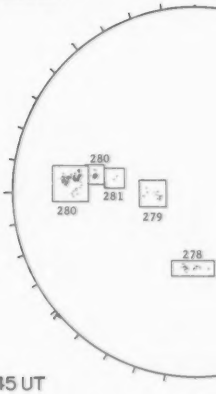
W

1238 UT

Sp

BOULDER

Np



E

1745 UT

Sp

NELC LA POSTA

Np

E

Sp

Np

SUNSPOTS

CORONA
NO DATA

Sp

Np

2.0 CM

W

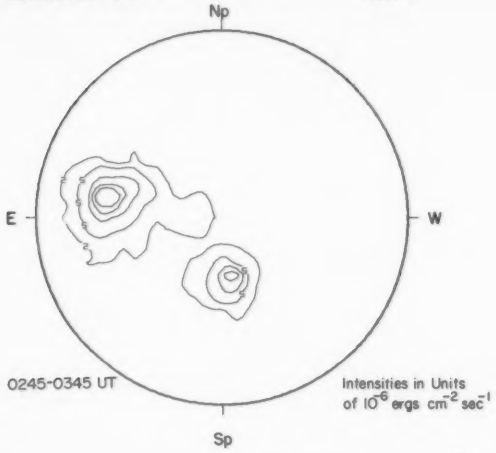
Sp

ANT. TEMP. UNIT 100° K

47
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



KITT PEAK

McMATH-HULBE

MAGNETOG
Bright - P
Dark - M

Np

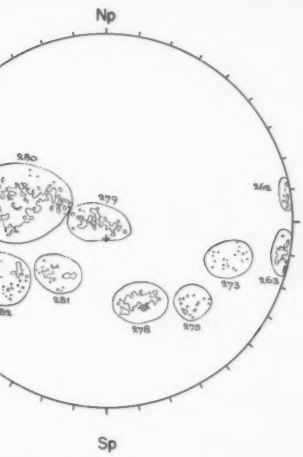
E

Sp

= 26.32, B_o = 6.28, L_o = 313.43)

48
Oct 74

ULBERT CALCIUM REPORT

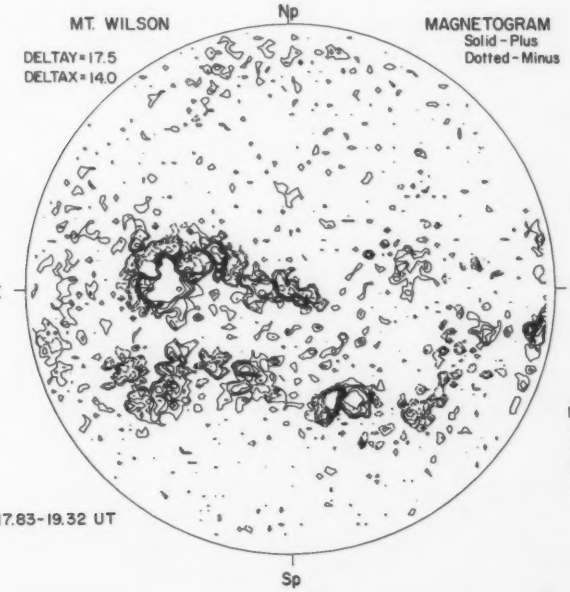


GOOD	M
63 - 1600	- 2.5
78 - 2000	- 3.5
79 - 1400	- 3.5
80 - 6500	- 4.0
81 - 0800	- 2.5

TOGRAM
ght - Plus
k - Minus

MT. WILSON
DELTAY = 17.5
DELTAX = 14.0

MAGNETOGRAM
Solid - Plus
Dotted - Minus



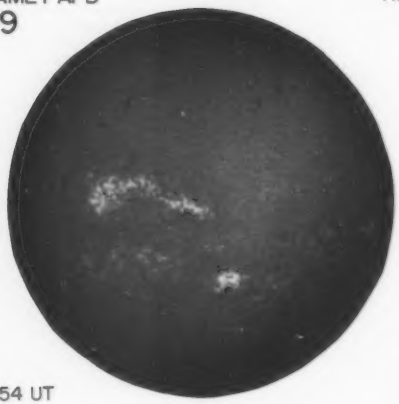
Levels
± 5
± 10
± 20
± 40
± 80

17.83-19.32 UT

RAMEY AFB
09

Np

Hα



E

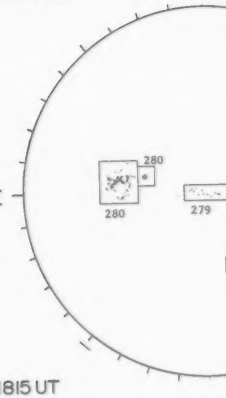
W

1154 UT

Sp

BOULDER

Np



E

1815 UT

Sp

NELC LA POSTA

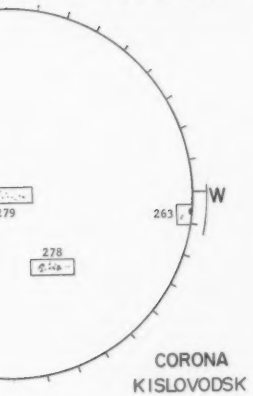
Np

E

Sp

Np

SUNSPOTS



CORONA
KISLOVODSK

Sp

2.0CM

Np

W

Sp

ANT. TEMP. UNIT 100° K

49
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

Np

E

NO DATA

W

Sp

Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

KITT PEAK

McMATH-HULB

E

1400UT

Np

MAGNETOG
Bright -
Dark - M

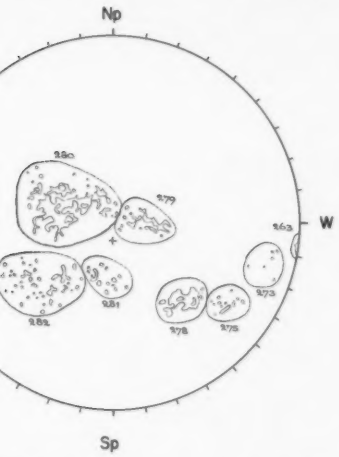
E

Sp

= 26.33, B_o = 6.22, L_o = 300.24)

50
Oct 74

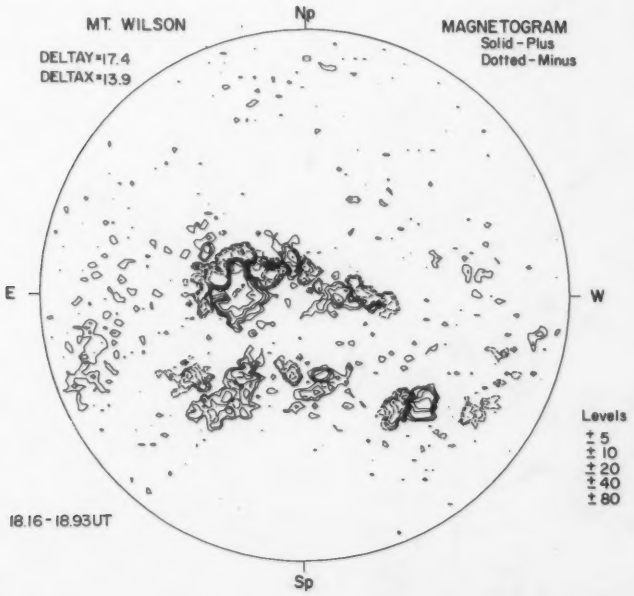
ULBERT CALCIUM REPORT



GOOD	M
63 - 0700 - 2.5	
78 - 2000 - 3.5	
79 - 1200 - 3.0	
80 - 6200 - 3.5	
81 - 0700 - 2.5	

TOGRAM
ght - Plus
k - Minus

MT. WILSON
DELTAY=17.4
DELTAX=13.9



MAGNETOGRAM
Solid - Plus
Dotted - Minus

Levels
± 5
± 10
± 20
± 40
± 80

18.16 - 18.93 UT

RAMEY AFB

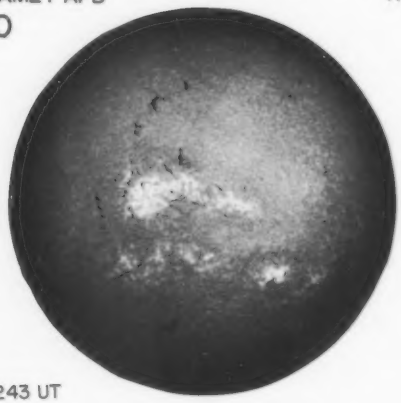
10

Np

Hα

E

W



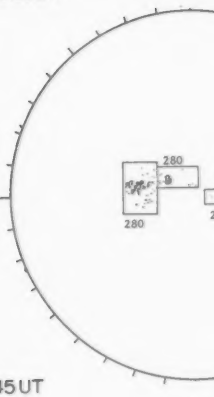
1243 UT

Sp

BOULDER

Np

E



1545 UT

Sp

NELC LA POSTA

Np

E

Sp

Np

SUNSPOTS

CORONA
NO DATA

Sp

Np

2.0 CM

W

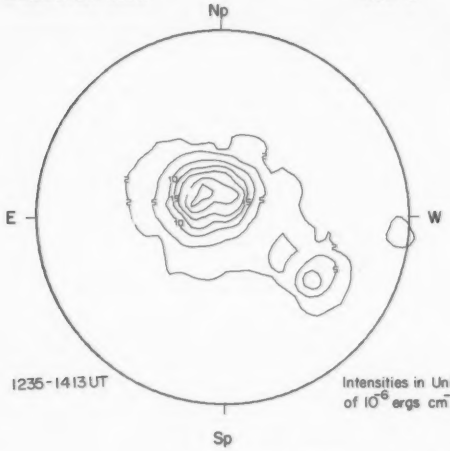
Sp

ANT TEMP. UNIT 100° K

51
Oct 74

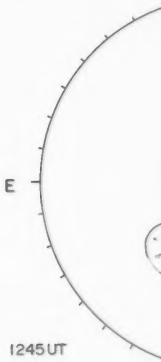
UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



KITT PEAK

McMATH-HULBER



MAGNETOGR
Bright - Pl
Dark - Min

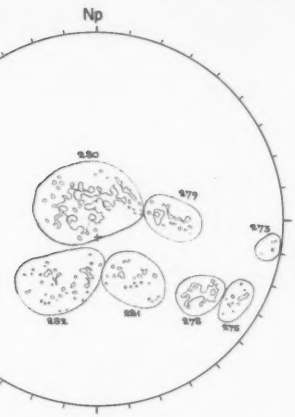
Np

E

Sp

26.33, B_o = 6.15, L_o = 287.05)

LBERT CALCIUM REPORT

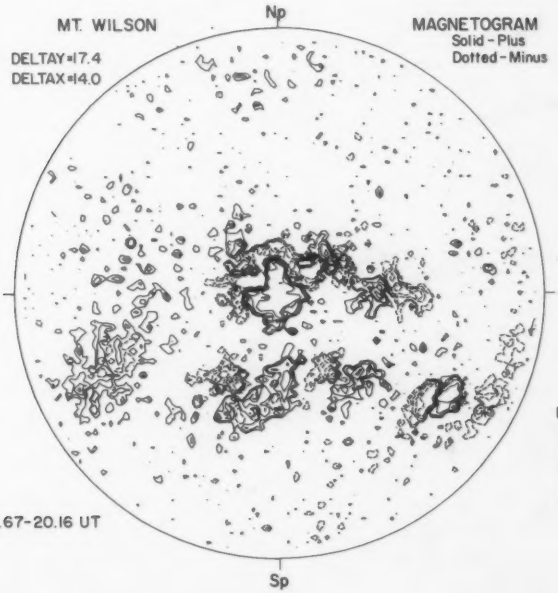


GOOD	S
78 - 2200	- 3.0
79 - 1000	- 3.0
80 - 6200	- 4.5
81 - 0800	- 2.5

OGRAM
- Plus
- Minus

MT. WILSON
DELTAY=17.4
DELTAX=14.0

MAGNETOGRAM
Solid - Plus
Dotted - Minus



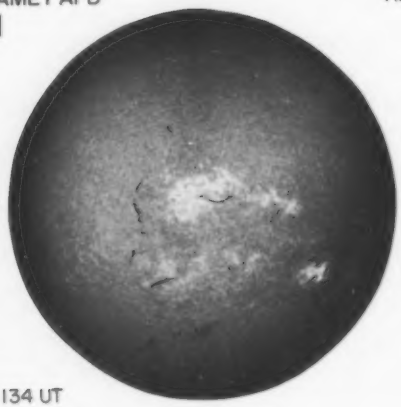
Levels
±5
±±10
±±±20
±±±±40
±80

18.67-20.16 UT

RAMEY AFB

Np

Hα



E

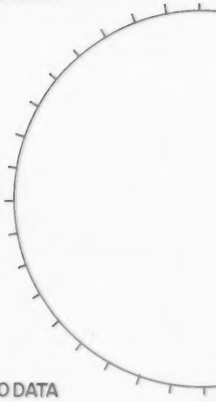
W

1134 UT

Sp

BOULDER

Np



E

NO DATA

Sp

NELC LA POSTA

Np

E

Sp

2.0 CM

Np

W

Sp

ANT. TEMP. UNIT 100° K

53
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

McMATH-HULBE

Np

E

NO DATA

W

Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

Sp

KITT PEAK

Np

E

MAGNETOG
Bright -
Dark - M

E

Sp

26.33, $B_o = 6.08$, $L_o = 273.85$)

54
Oct 74

LBERT CALCIUM REPORT

Np

NO DATA

W

Sp

TOGRAM
ght - Plus
k - Minus

MT. WILSON

DELTAY= 17.4
DELTAX= 14.0

Np

MAGNETOGRAM
Solid - Plus
Dotted - Minus

W E

W

Levels
±5
±10
±20
±40
±80

18.56-20.05 UT

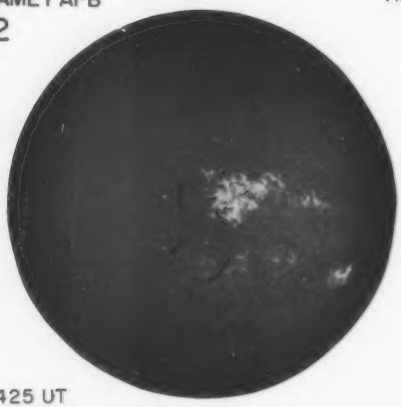
Sp

RAMEY AFB

12

Np

Hα



E

W

1425 UT

Sp

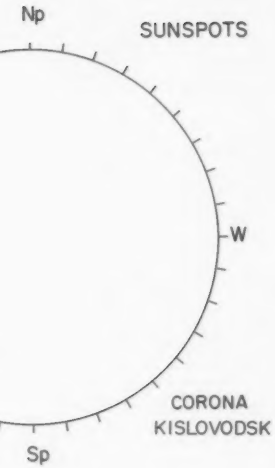
BOULDER

E

NO DATA

NELC LA POSTA

E



Np

2.0 CM

W

Sp

ANT. TEMP. UNIT 100° K

55
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

McMATH-HULBE

Np

E

NO DATA

W

Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

1245UT

Sp

KITT PEAK

Np

MAGNETOGR
Bright - P
Dark - Mi

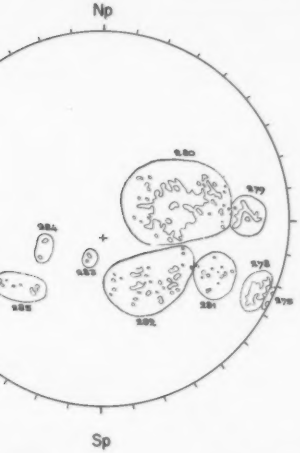
E

Sp

= 26.31, B_o = 6.02, L_o = 260.66)

56
Oct 74

LBERT CALCIUM REPORT

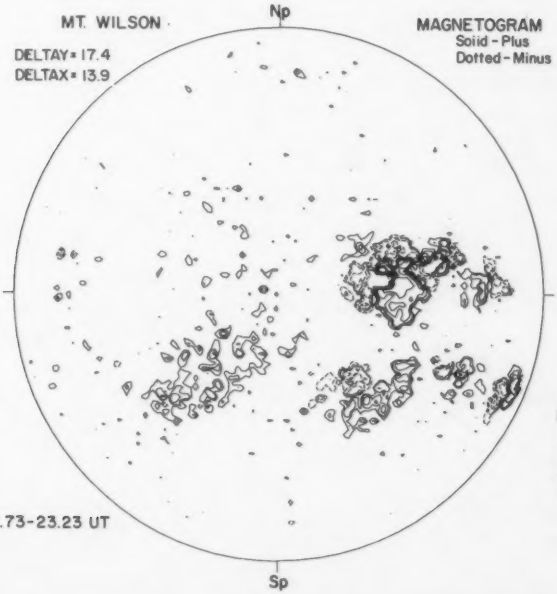


POOR	D
78 - 2600	- 3.0
79 - 1000	- 2.5
80 - 6500	- 3.5
82 - 1500	- 2.5

OGRAM
t - Plus
- Minus

MT. WILSON
DELTAY = 17.4
DELTAX = 13.9

MAGNETOGRAM
Solid - Plus
Dotted - Minus



Levels
± 5
± 10
± 20
± 40
± 80

21.73-23.23 UT

RAMEY AFB

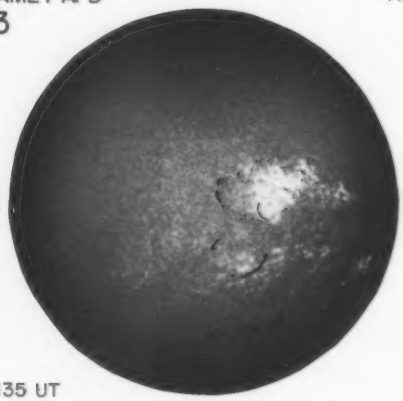
13

Np

Hα

E

W



1135 UT

Sp

BOULDER

Np

E

1620 UT

Sp

NELC LA POSTA

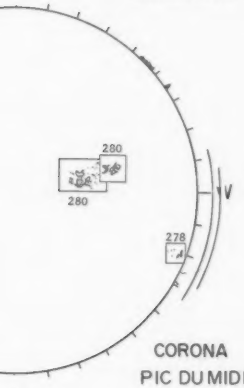
Np

E

Sp

Np

SUNSPOTS



CORONA
PIC DU MIDI

Sp

Np

2.0 CM

W

Sp

ANT. TEMP. UNIT 100° K

57
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

Np

E

NO DATA

W

Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

Sp

KITT PEAK

Np

McMATH-HULBE

E

MAGNETOG
Bright - F
Dark - M

E

Sp

= 26.29, B_o = 5.94, L_o = 247.47)

58
Oct 74

ULBERT CALCIUM REPORT

Np

NO DATA

W

Sp

TOGRAM
ht - Plus
k - Minus

MT. WILSON
DELTAY=17.5
DELTAX=14.0

Np

MAGNETOGRAM
Solid - Plus
Dotted - Minus

W E

W

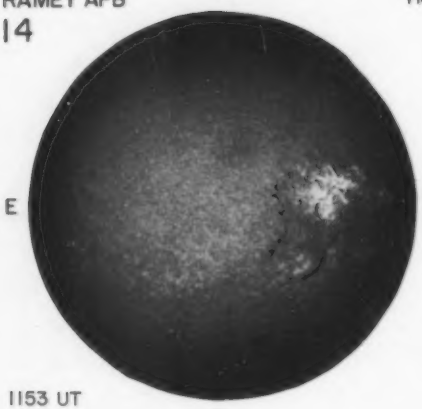
Levels
±5
±10
±20
±40
±80

18.70-20.19 UT

Sp

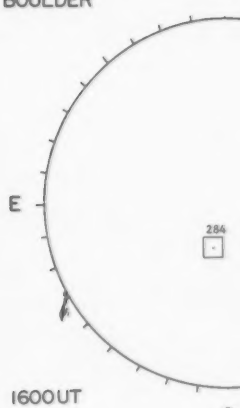
RAMEY AFB

14



1153 UT

BOULDER

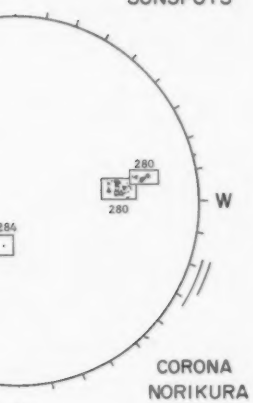


1600UT

NELC LA POSTA

Np

SUNSPOTS



CORONA
NORIKURA

Sp

Np

2.0CM

W

Sp

ANT. TEMP. UNIT 100°K

59
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

McMATH-HULB

Np

E

NO DATA

W

Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

Sp

KITT PEAK

Np

E

1340 UT

MAGNETOG
Bright-
Dark-

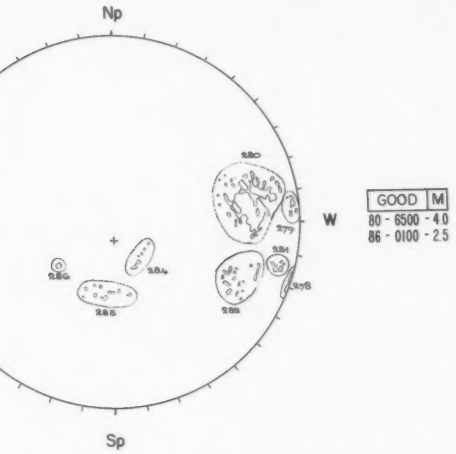
E

Sp

= 26.26, B_o = 5.87, L_o = 234.28)

60
Oct 74

ULBERT CALCIUM REPORT

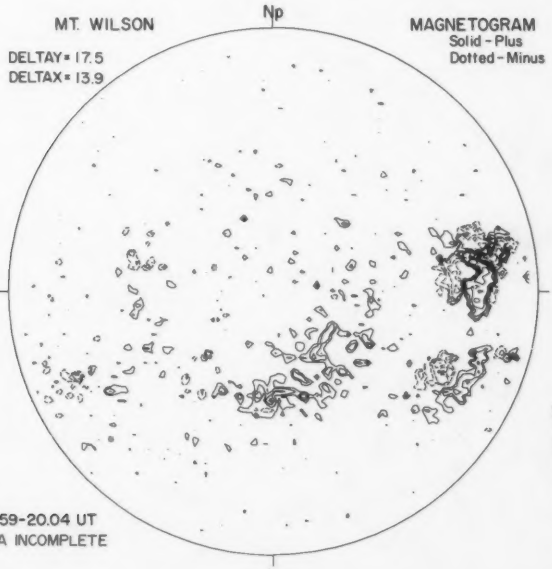


GOOD	M
80 - 6500	- 4.0
86 - 0100	- 2.5

ETOGRAM
ght - Plus
rk - Minus

MT. WILSON
DELTAY = 17.5
DELTAX = 13.9

MAGNETOGRAM
Solid - Plus
Dotted - Minus

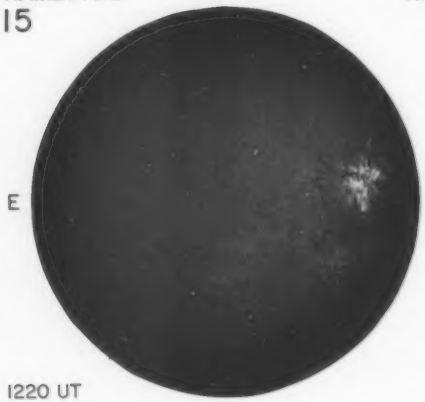


Levels
± 5
± 10
± 20
± 40
± 80

18.59-20.04 UT
DATA INCOMPLETE

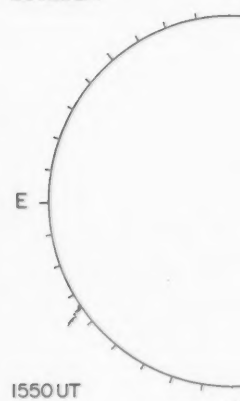
RAMEY AFB

15



1220 UT

BOULDER

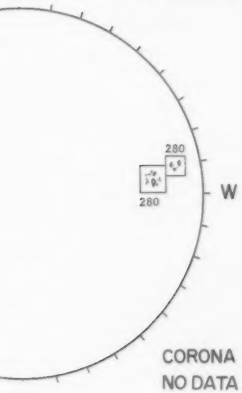


1550 UT

NELC LA POSTA

Np

SUNSPOTS



CORONA
NO DATA

Sp

Np

2.0 CM

W

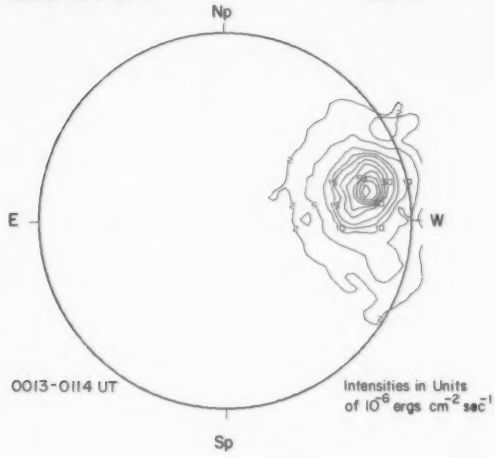
Sp

ANT. TEMP. UNIT 100°K

61
Oct 74

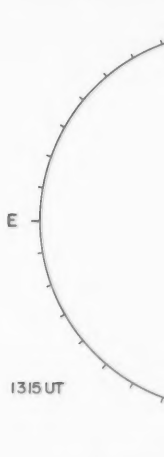
UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



KITT PEAK

McMATH-HULBER



MAGNETOGRA
Bright - Plu
Dark - Min

Np

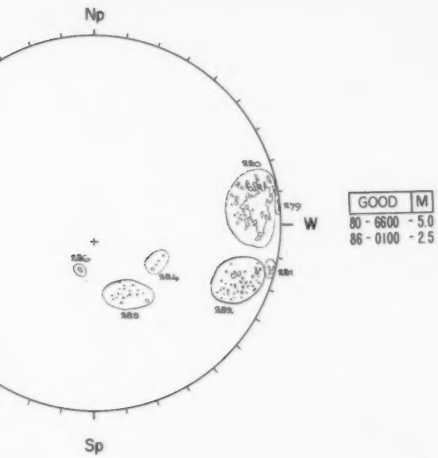
E

Sp

26.23, $B_o = 5.80$, $L_o = 221.09$)

62
Oct 74

LBERT CALCIUM REPORT



GOOD	M
80 - 6600	- 5.0
86 - 0100	- 2.5

OGRAM
- Plus
- Minus

MT. WILSON

DELTAY=
DELTAX=

Np

MAGNETOGRAM
Solid - Plus
Dotted - Minus

W E

NO DATA

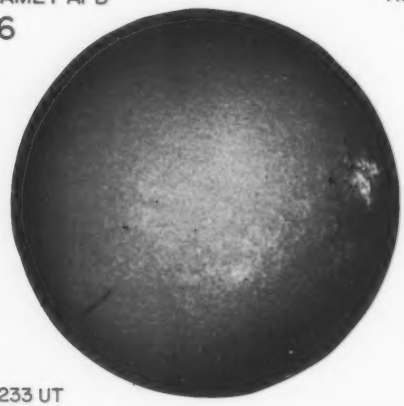
W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

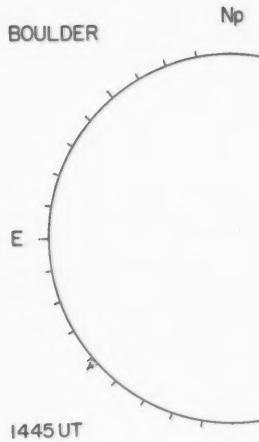
RAMEY AFB

16



1233 UT

BOULDER

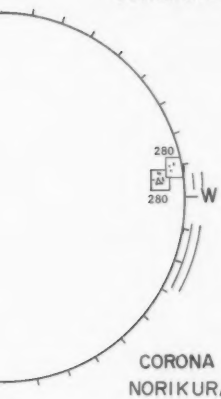


1445 UT

NELC LA POSTA

Np

SUNSPOTS



CORONA
NORIKURA

Sp

Np

2.0 CM

W

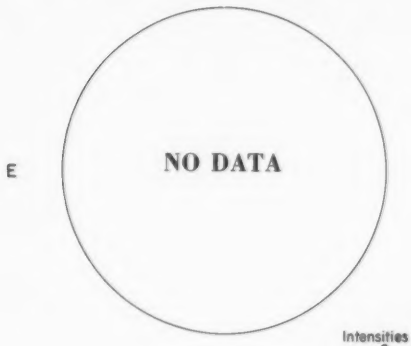
Sp

ANT. TEMP. UNIT 100° K

63
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

KITT PEAK

McMATH-HUL

1325UT

Np

MAGNETO
Bright
Dark -

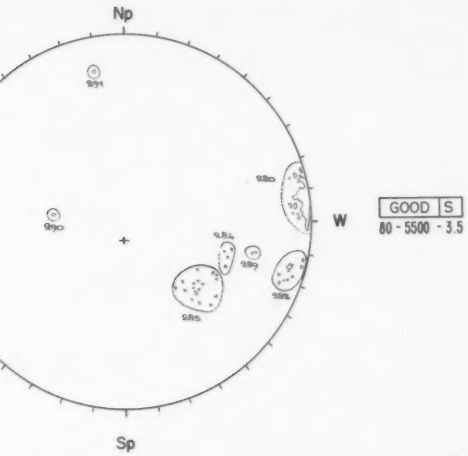
E

Sp

= 26.18, B_o = 5.72, L_o = 207.90)

64
Oct 74

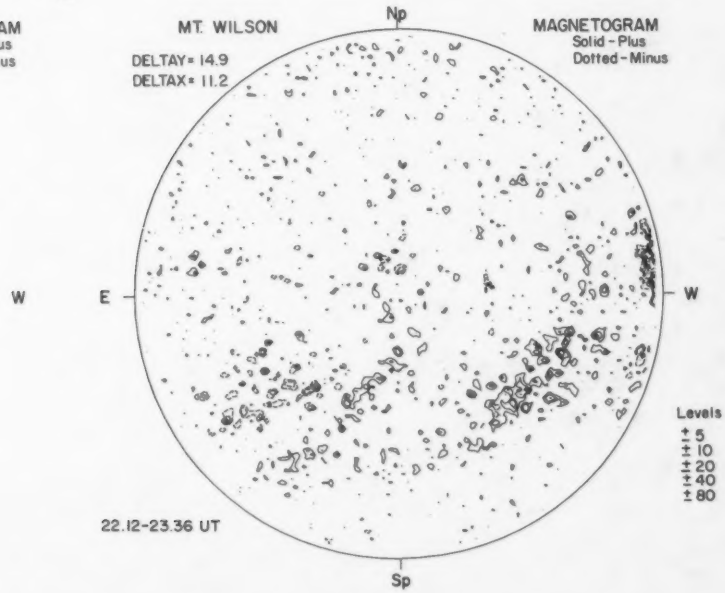
HULBERT CALCIUM REPORT



NETOGRAM
right - Plus
ark - Minus

MT. WILSON
DELTAY = 14.9
DELTAX = 11.2

MAGNETOGRAM
Solid - Plus
Dotted - Minus

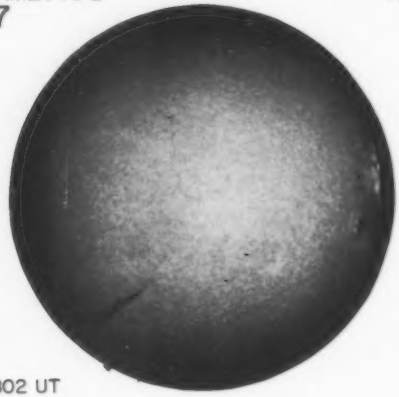


22.12-23.36 UT

RAMEY AFB
17

Np

Hα



E

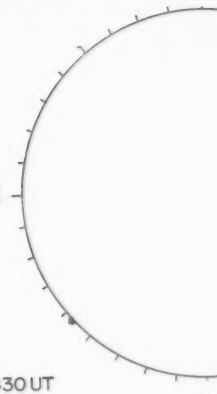
W

1802 UT

Sp

BOULDER

Np



E

1430 UT

Sp

NELC LA POSTA

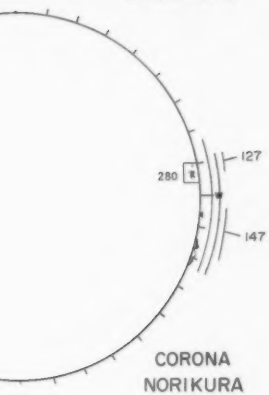
Np

E

Sp

Np

SUNSPOTS



CORONA
NORIKURA

Sp

Np

2.0 CM

W

Sp

ANT. TEMP. UNIT 100° K

65
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

KITT PEAK

McMATH-HULB

1320 UT

MAGNETO
Bright-
Dark-

E

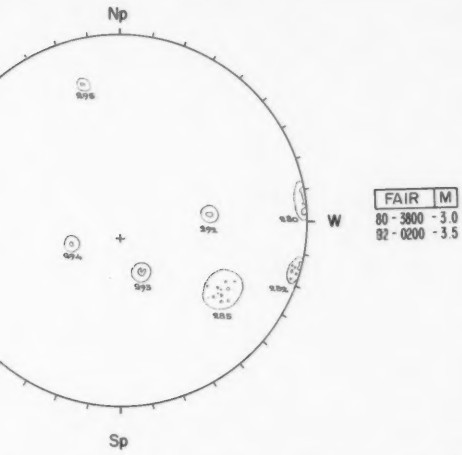
Sp

= 26.13, B_o = 5.64, L_o = 194.71)

Oct 74

66

HULBERT CALCIUM REPORT



FAIR	M
80 - 3800	- 3.0
92 - 0200	- 3.5

ETOGRAM
ight - Plus
rk - Minus

MT. WILSON

DELTAY=
DELTAX=

Np

MAGNETOGRAM
Solid - Plus
Dotted - Minus

W E

NO DATA

W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

RAMEY AFB

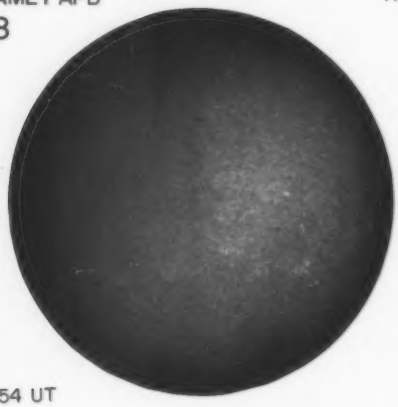
18

Np

Hα

E

W



1154 UT

Sp

BOULDER

Np

E

1620 UT

Sp

NELC LA POSTA

Np

E

Sp

Np

SUNSPOTS

CORONA
NO DATA

Sp

2.0 CM

Np

W

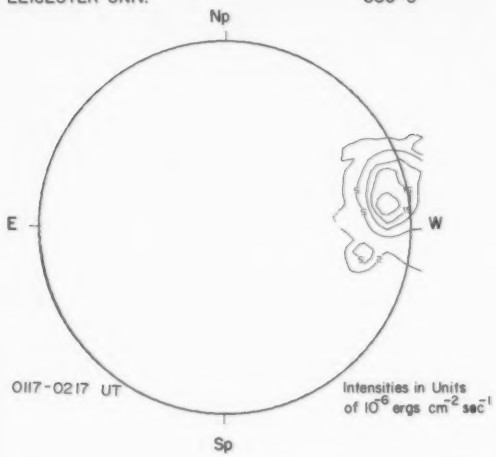
Sp

ANT. TEMP. UNIT 100° K

67
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



KITT PEAK

McMATH-HULB

MAGNETOG
Bright -
Dark - M

Np

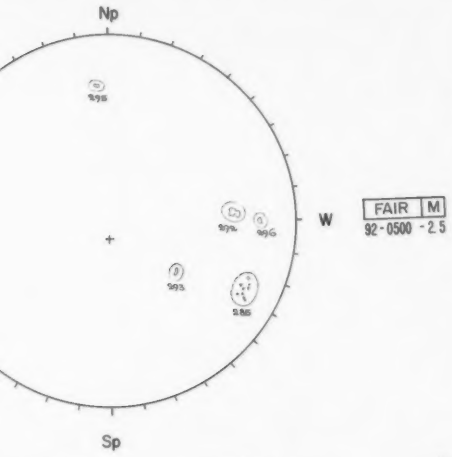
E

Sp

= 26.07, B_o = 5.56, L_o = 181.52)

68
Oct 74

ULBERT CALCIUM REPORT



FAIR | M
92-0500 -2.5

TOGRAM
ght - Plus
k - Minus

MT. WILSON

DELTAY =
DELTAX =

Np

MAGNETOGRAM
Solid - Plus
Dotted - Minus

W E

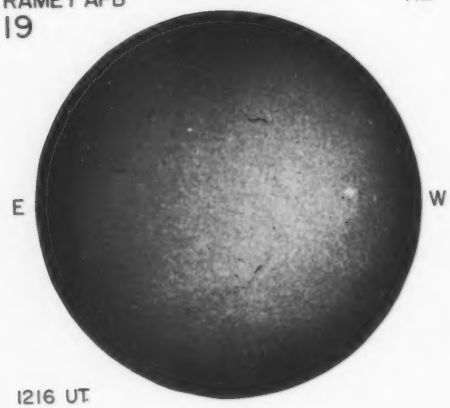
NO DATA

W

Levels
± 5
± 10
± 20
± 40
± 80

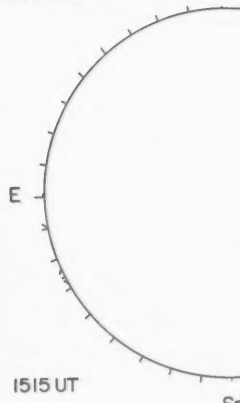
Sp

RAMEY AFB
19



1216 UT

BOULDER

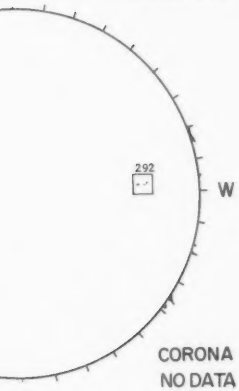


1515 UT

NELC LA POSTA

Np

SUNSPOTS



CORONA
NO DATA

Sp

Np

2.0 CM

W

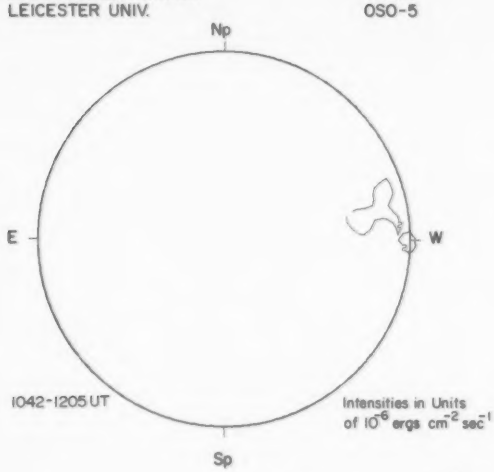
Sp

ANT. TEMP. UNIT 100° K

69
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



KITT PEAK

McMATH-HULBERT

MAGNETOGRA
Bright - Plus
Dark - Minus

Np

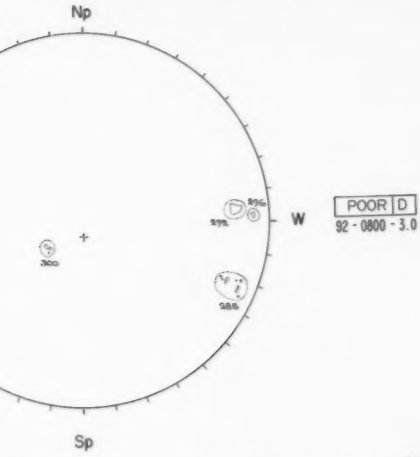
E

Sp

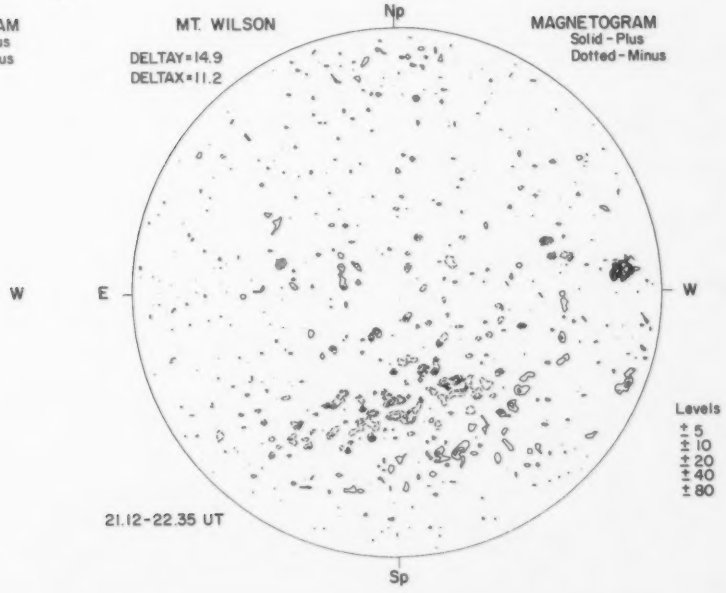
26.01, $B_o = 5.48$, $L_o = 168.33$)

70
Oct 74

ERT CALCIUM REPORT

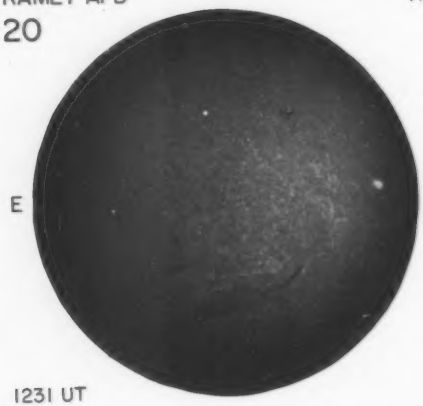


GRAM
Plus
Minus



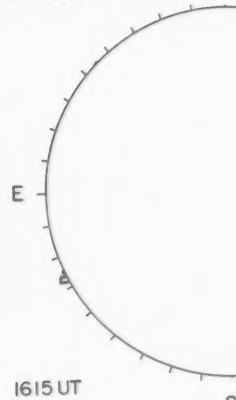
RAMEY AFB

20



1231 UT

BOULDER



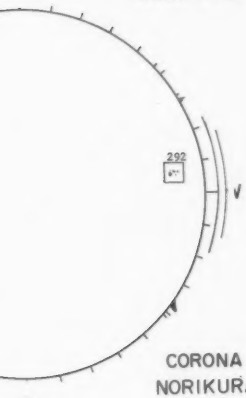
1615 UT

NELC LA POSTA

E

Np

SUNSPOTS



CORONA
NORIKURA

Sp

Np

2.0CM

W

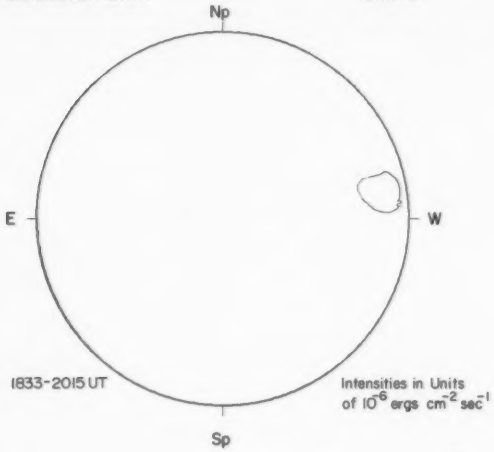
Sp

ANT. TEMP. UNIT 100° K

71
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



KITT PEAK

McMATH-HULBE

MAGNETOGR
Bright - Pl
Dark - Min

Np

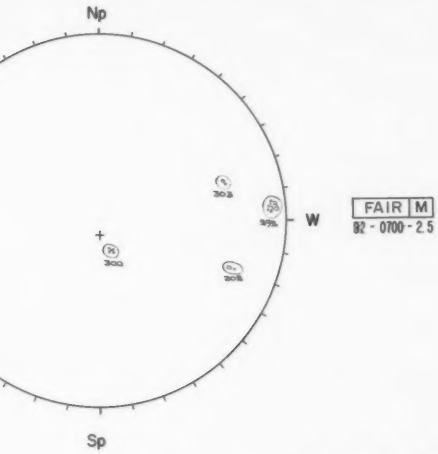
E

Sp

P = 25.93, B_o = 5.40, L_o = 155.14)

72
Oct 74

LBERT CALCIUM REPORT

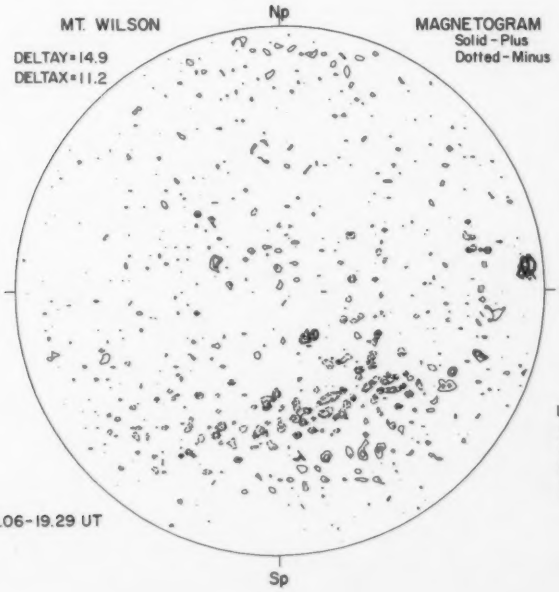


FAIR | M
82 - 0700 - 2.5

OGRAM
- Plus
- Minus

MT. WILSON
DELTAY = 14.9
DELTAX = 11.2

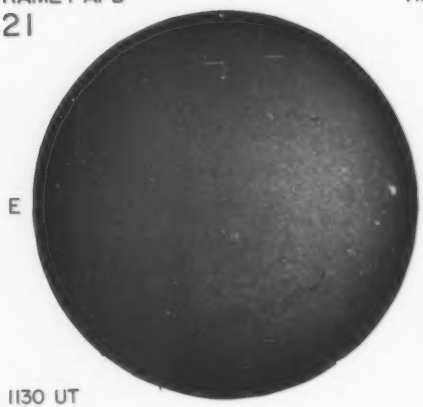
MAGNETOGRAM
Solid - Plus
Dotted - Minus



Levels
± 5
± 10
± 20
± 40
± 80

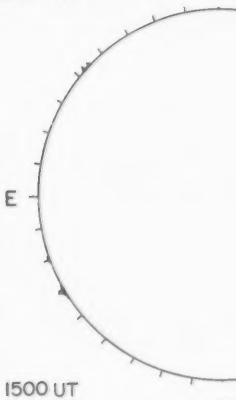
18.06 - 19.29 UT

RAMEY AFB
21



1130 UT

BOULDER

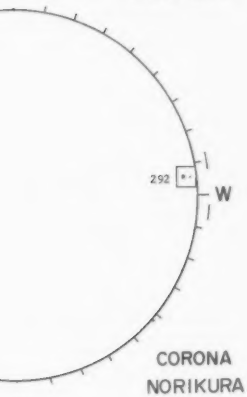


1500 UT

NELC LA POSTA

Np

SUNSPOTS



CORONA
NORIKURA

Sp

2.0 CM

Np

W

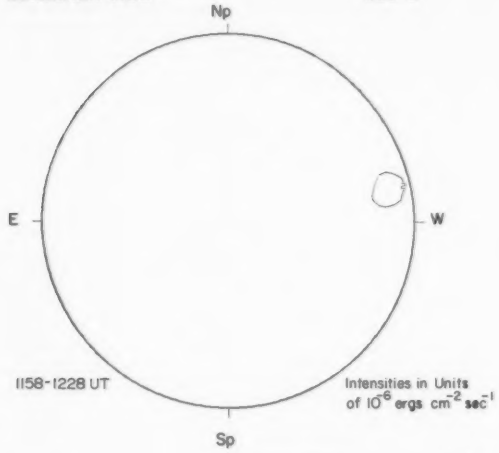
Sp

ANT. TEMP. UNIT 100° K

73
Oct 74

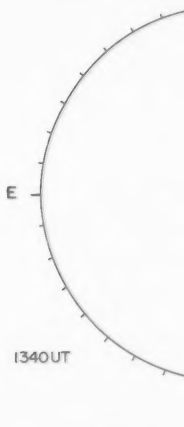
UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



KITT PEAK

McMATH-HULBERT



Np

MAGNETOGRAM
Bright - Plus
Dark - Minus

E

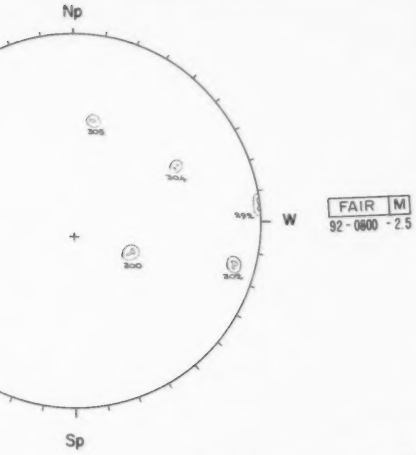
W

Sp

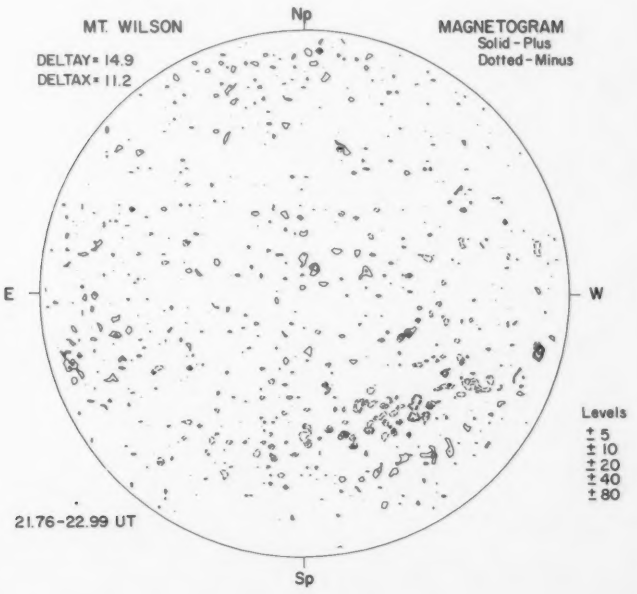
25.85, $B_o = 5.31$, $L_o = 141.95$)

74
Oct 74

ERT CALCIUM REPORT



RAM
Plus
inus



MAGNETOGRAM
Solid - Plus
Dotted - Minus

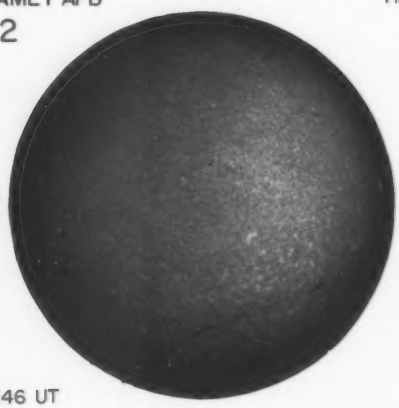
Levels
± 5
± 10
± 20
± 40
± 80

RAMEY AFB

22

Np

Hα



E

W

1146 UT

Sp

BOULDER

Np

E

NO D

S

NELC LA POSTA

Np

E

L

1823 UT

Sp

Np

SUNSPOTS

DATA

W

CORONA

Sp

Np

2.0 CM

W

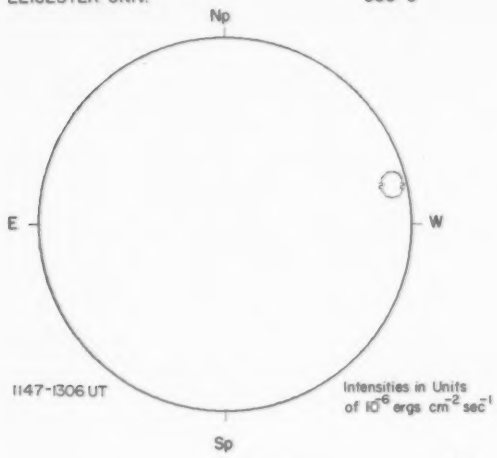
Sp

ANT. TEMP. UNIT 100°K

75
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



KITT PEAK

McMATH-HULBE

MAGNETOGR
Bright - P
Dark - Mi

Np

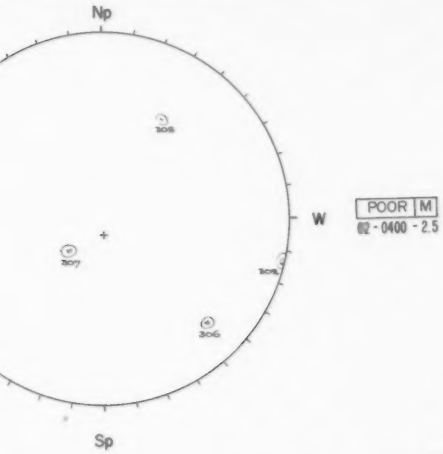
E

Sp

= 25.76, B_o = 5.23, L_o = 128.77)

76
Oct 74

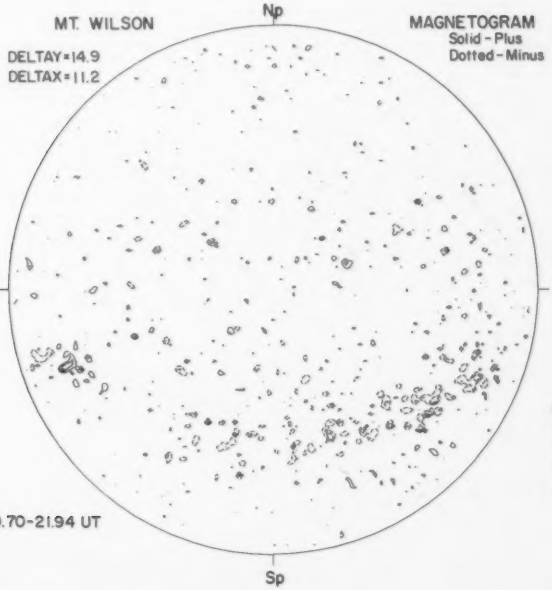
LBERT CALCIUM REPORT



TOGRAM
nt - Plus
- Minus

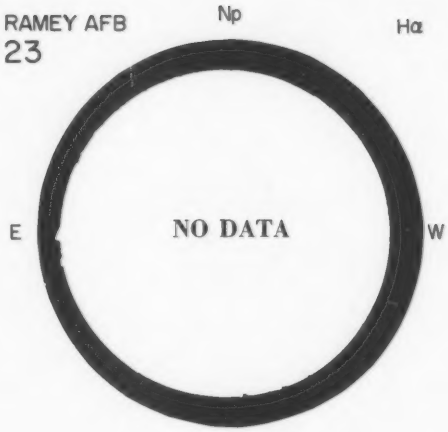
MT. WILSON
DELTAY = 14.9
DELTAX = 11.2

MAGNETOGRAM
Solid - Plus
Dotted - Minus

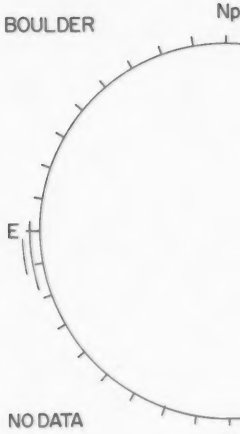


20.70-21.94 UT

RAMEY AFB
23



BOULDER



NELC LA POSTA

2.0CM

Np

W

Sp

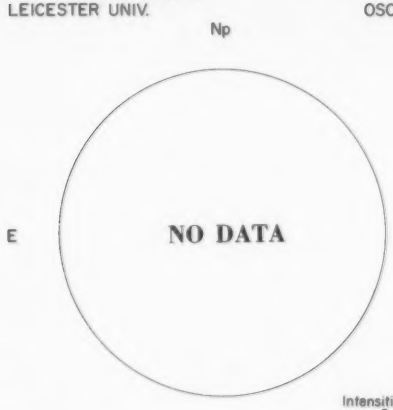
ANT. TEMP. UNIT 100°K

77
Oct 74

OCTOBER 24, 1974 (P = 2

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

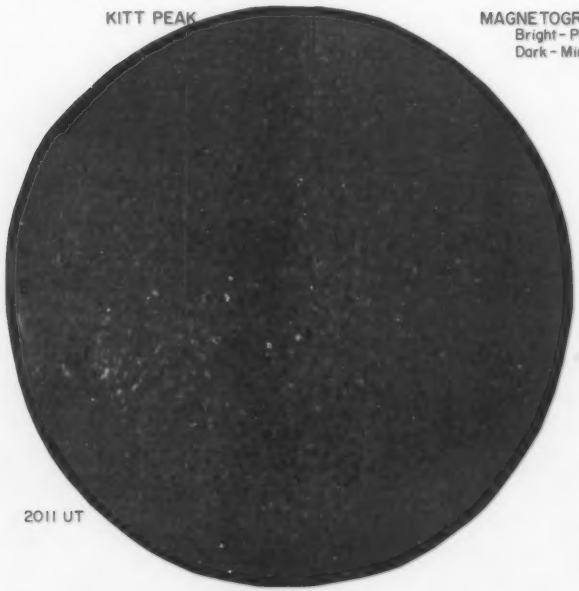


Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBE

1430UT

KITT PEAK



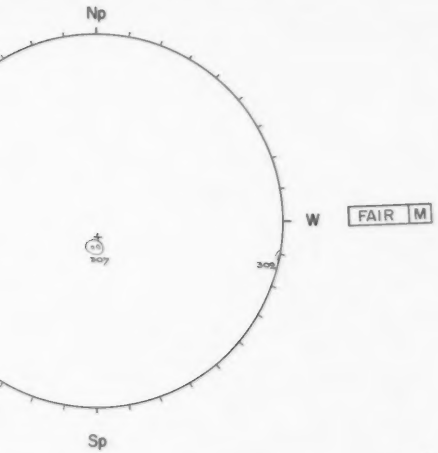
2011 UT

MAGNETOGR
Bright - Pl
Dark - Min

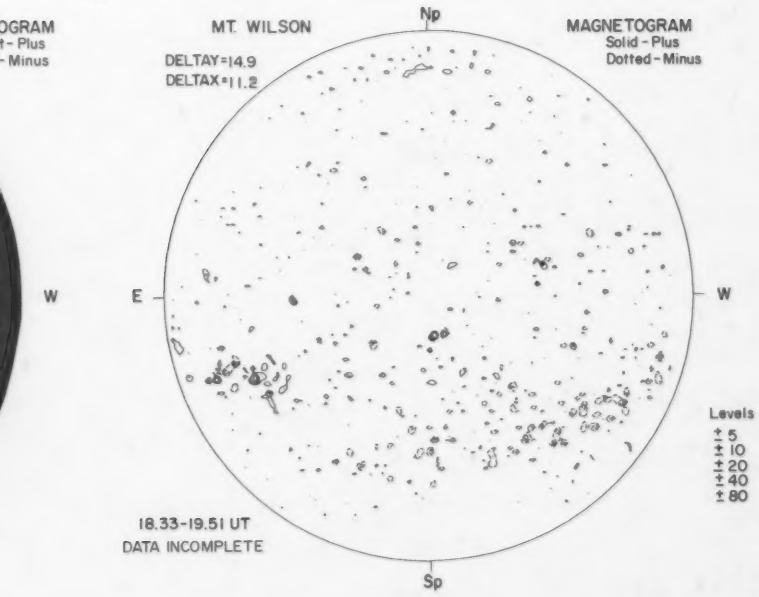
= 25.66, B_o = 5.14, L_o = 115.58)

78
Oct 74

LBERT CALCIUM REPORT

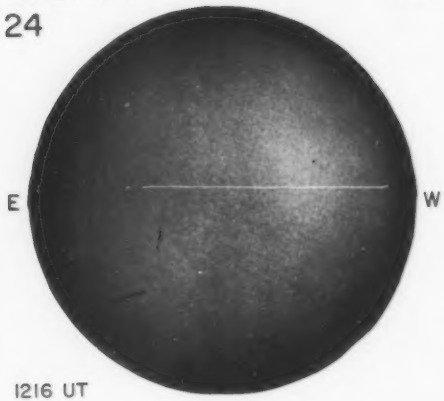


OGRAM
t - Plus
- Minus



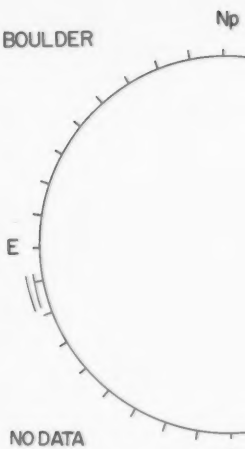
RAMEY AFB

24



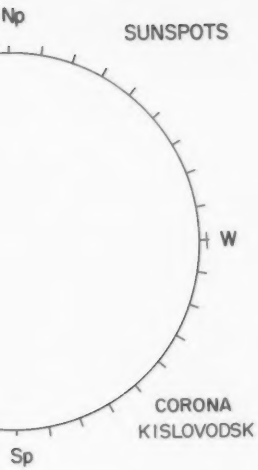
1216 UT

BOULDER



NO DATA

NELC LA POSTA



2.0 CM

Np

W

Sp

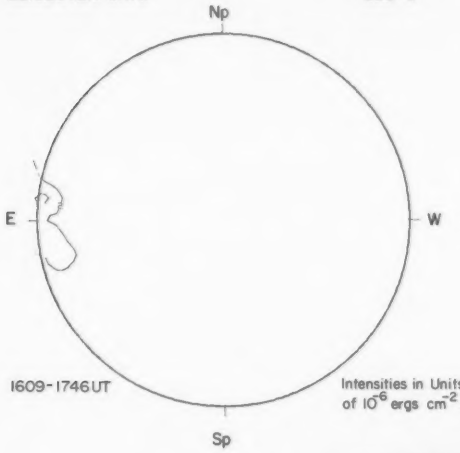
ANT. TEMP. UNIT 100° K

79
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

McMATH-HULBE



1609-1746 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

1430 UT

KITT PEAK

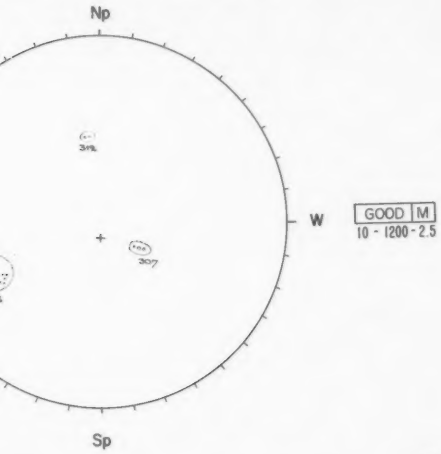
MAGNETOGR
Bright - P
Dark - Mi

1444 UT

P = 25.56, B_o = 5.05, L_o = 102.39)

Oct 74 80

LBERT CALCIUM REPORT

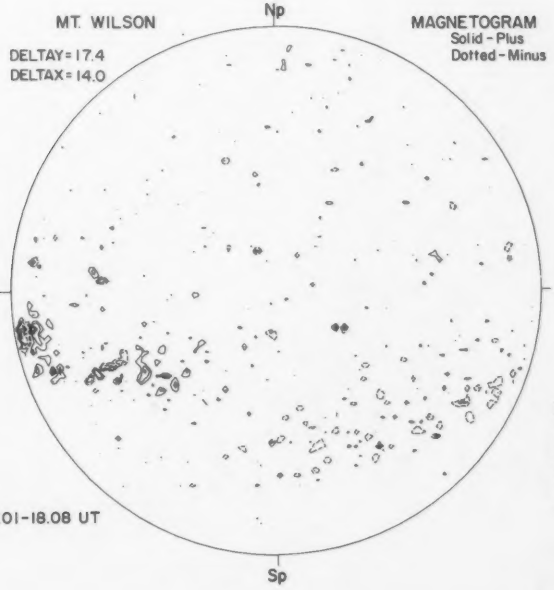


GOOD | M
10 - 1200 - 2.5

TOGRAM
t - Plus
- Minus

MT. WILSON
DELTAY = 17.4
DELTAX = 14.0

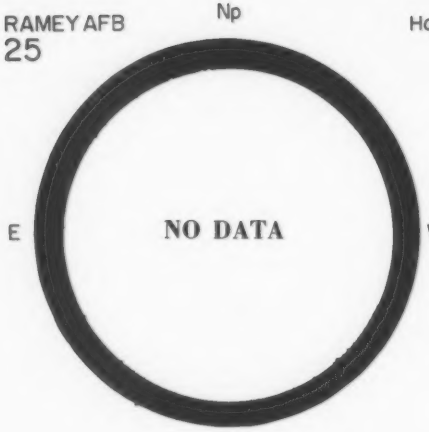
MAGNETOGRAM
Solid - Plus
Dotted - Minus



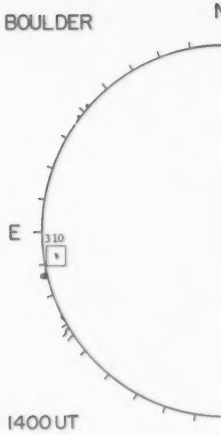
Levels
± 5
± 10
± 20
± 40
± 80

17.01 - 18.08 UT

RAMEY AFB
25



BOULDER



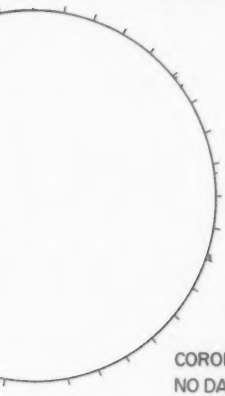
1400 UT

NELC LA POSTA

E

Np

SUNSPOTS



CORONA
NO DATA

Sp

2.0 CM

Np

W

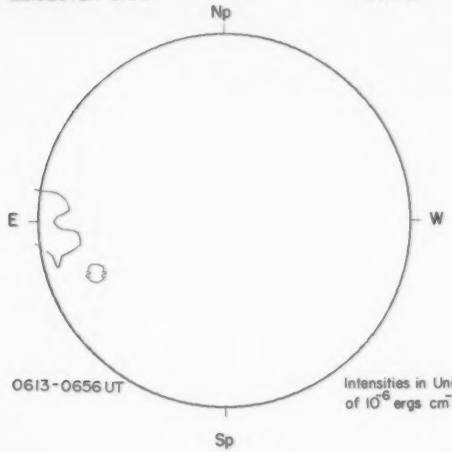
Sp

ANT. TEMP. UNIT 100°K

81
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

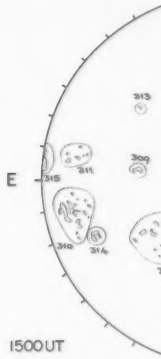


0613-0656 UT

Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

KITT PEAK

McMATH-HULBE



1500 UT

MAGNETOGR
Bright - Pl
Dark - Mi

Np

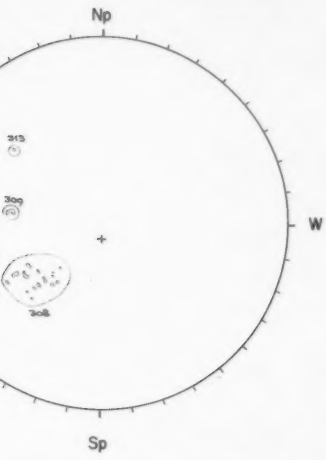
E

Sp

P = 25.45, B_o = 4.96, L_o = 89.20)

82
Oct 74

LBERT CALCIUM REPORT

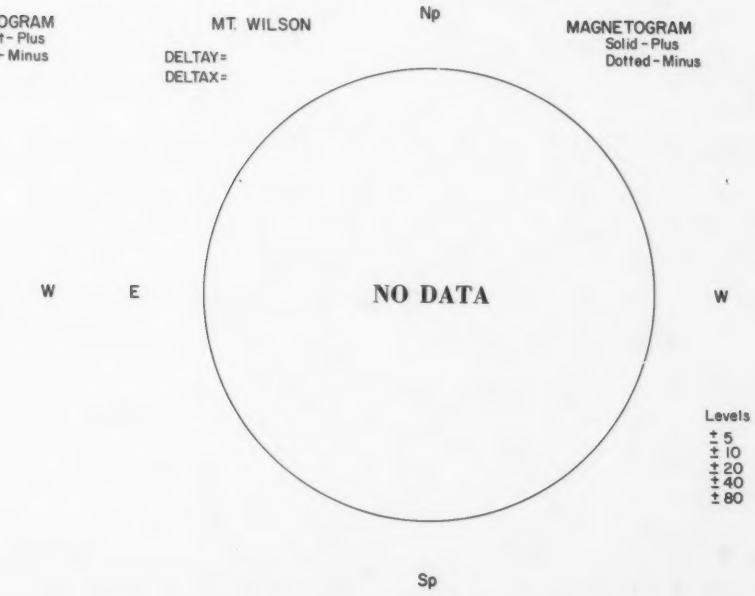


GOOD	S
09 - 0200	3.5
10 - 1200	3.0
15 - 1200	2.5

OGRAM
- Plus
- Minus

MT. WILSON

DELTAY=
DELTAX=



MAGNETOGRAM
Solid - Plus
Dotted - Minus

Levels
± 5
± 10
± 20
± 40
± 80

RAMEY AFB

26

Np

Hα

E

W

Sp

1145 UT

BOULDER

Np

E

315

309

310

314

Sp

1630 UT

NELC LA POSTA

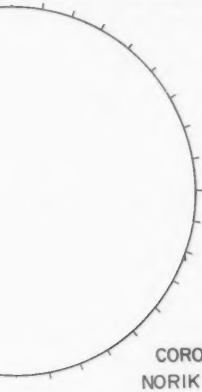
Np

E

Sp

Np

SUNSPOTS



W

CORONA
NORIKURA

Sp

2.0CM

Np

W

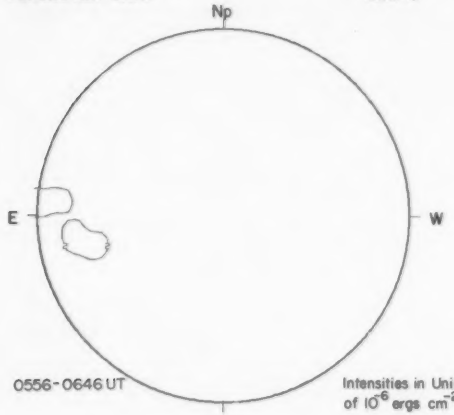
Sp

ANT. TEMP. UNIT 100° K

83
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



0556-0646 UT

Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

KITT PEAK

McMATH-HULB

1320 UT

MAGNETOG
Bright -
Dark - M

E

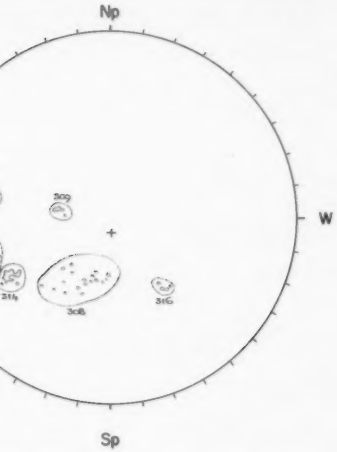
Np

Sp

P = 25.33, B_o = 4.87, L_o = 76.01)

84
Oct 74

ULBERT CALCIUM REPORT



FAIR	D
09 - 0300	- 3.0
10 - 1700	- 3.5
14 - 0700	- 3.0
15 - 2200	- 3.5

TOGRAM
ght - Plus
k - Minus

MT. WILSON

DELTAY=
DELTAX=

Np

MAGNETOGRAM
Solid - Plus
Dotted - Minus

W E

NO DATA

W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

RAMEY AFB

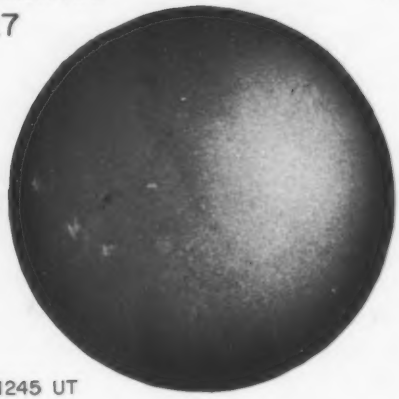
27

Np

Hα

E

W



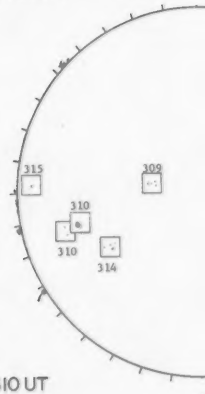
1245 UT

Sp

BOULDER

Np

E



1610 UT

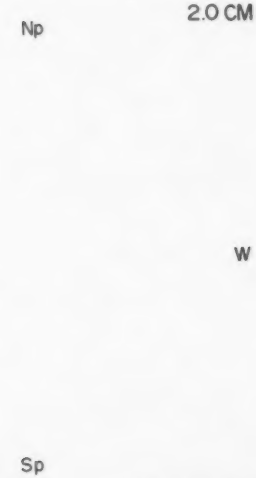
S

NELC LA POSTA

N

E

2.0 CM

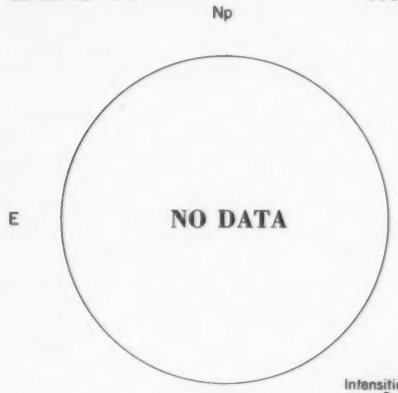


ANT. TEMP. UNIT 100°K

85
Oct 74

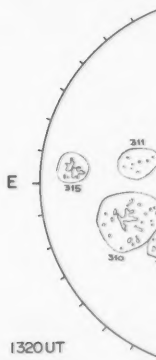
UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

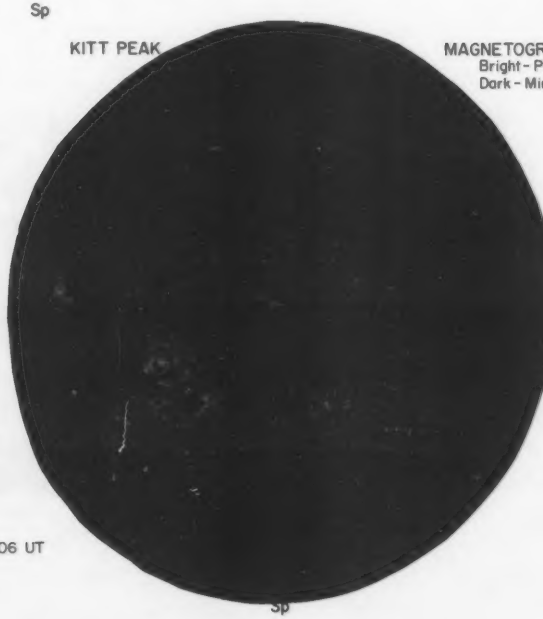
McMATH-HULBE



1320 UT

KITT PEAK

MAGNETOGR
Bright - P
Dark - Mi

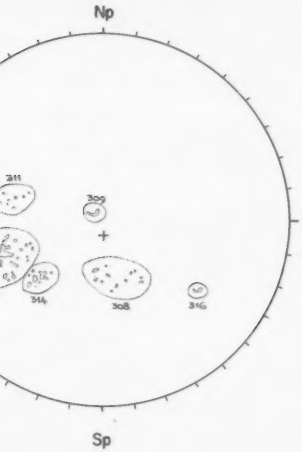


1606 UT

(P = 25.20, B_o = 4.77, L_o = 62.82)

86
Oct 74

ULBERT CALCIUM REPORT

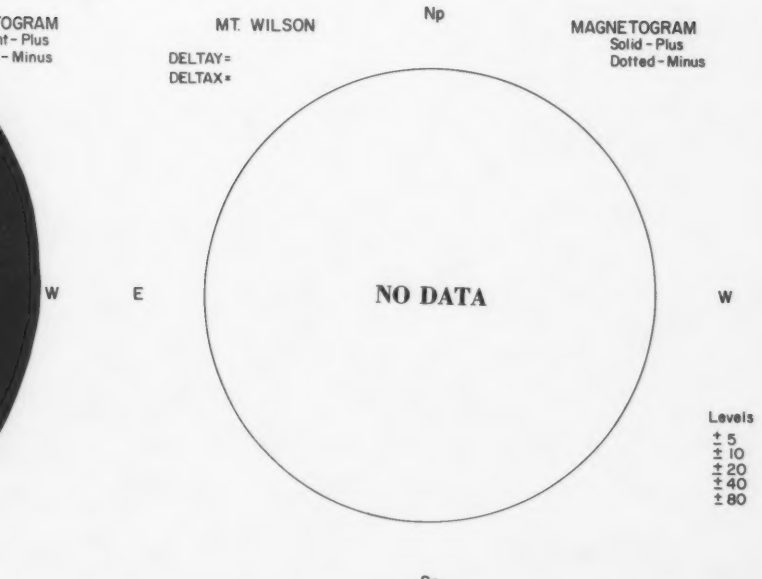


FAIR	D
09 - 0200	2.5
10 - 1700	3.5
14 - 0700	3.0
15 - 1800	3.0

TOGRAM
t - Plus
- Minus

MT. WILSON

DELTAY=
DELTAX=

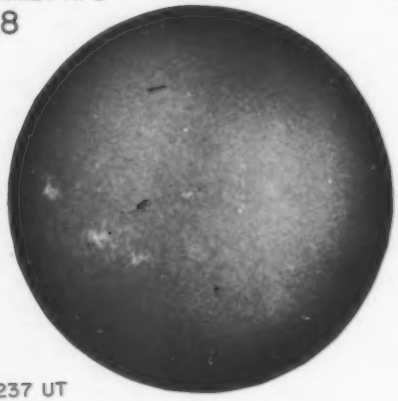


MAGNETOGRAM
Solid - Plus
Dotted - Minus

Levels
± 5
± 10
± 20
± 40
± 80

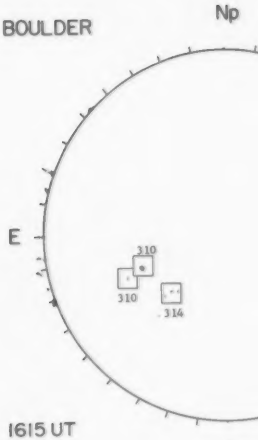
RAMEY AFB

28



1237 UT

BOULDER



1615 UT

NELC LA POSTA

2.0CM

Np

W

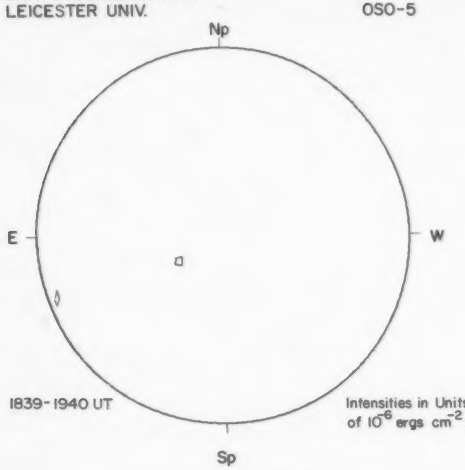
Sp

ANT. TEMP. UNIT 100° K

87
Oct 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

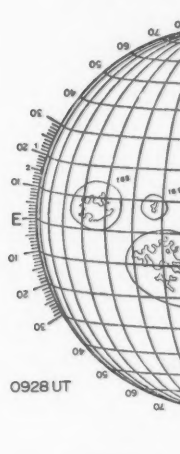


1839-1940 UT

Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

KITT PEAK

CATANIA



0928 UT

MAGNETOGRA
Bright - Plus
Dark - Minu

Np

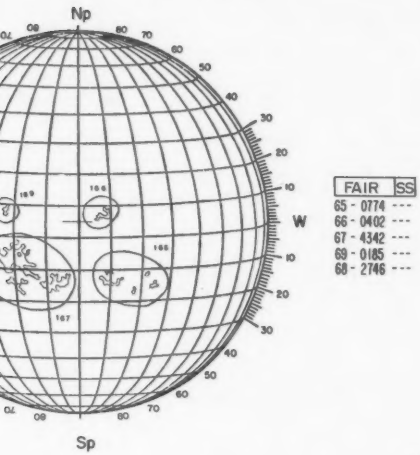
E

Sp

P = 25.06, B_o = 4.67, L_o = 49.64)

88
Oct 74

CALCIUM REPORT



FAIR	SS
65 - 0774	---
66 - 0402	---
67 - 4342	---
69 - 0185	---
68 - 2746	---

GRAM
- Plus
Minus

MT. WILSON

DELTAY=
DELTAX=

Np

MAGNETOGRAM
Solid - Plus
Dotted - Minus

W E

NO DATA

W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

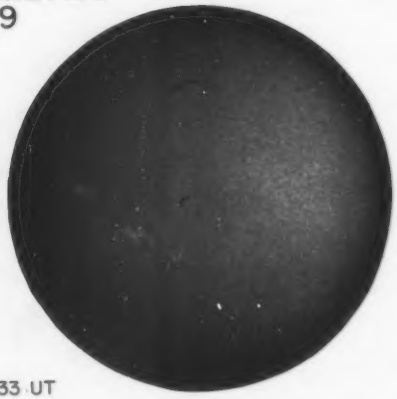
RAMEY AFB
29

Np

Hα

E

W



1133 UT

Sp

BOULDER

Np

E

310

1630 UT

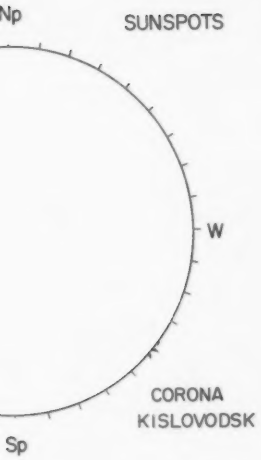
Sp

NELC LA POSTA

Np

E

Sp



2.0 CM

Np

W

Sp

ANT. TEMP. UNIT 100° K

89
Oct 74

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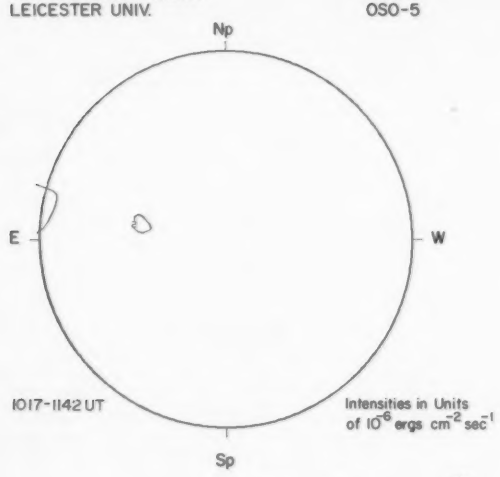
X-RAY
OSO-5



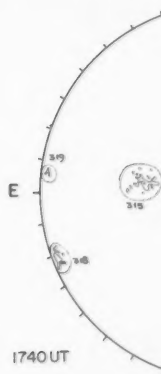
KITT PEAK

Np

E

Sp

McMATH-HULBE

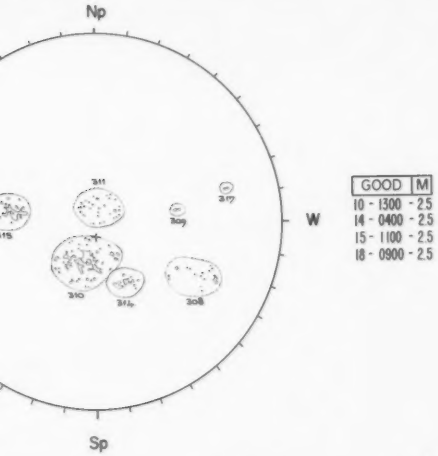


MAGNETOGR
Bright - Pl
Dark - Mi

P = 24.92, B_o = 4.58, L_o = 36.45)

90
Oct 74

LBERT CALCIUM REPORT



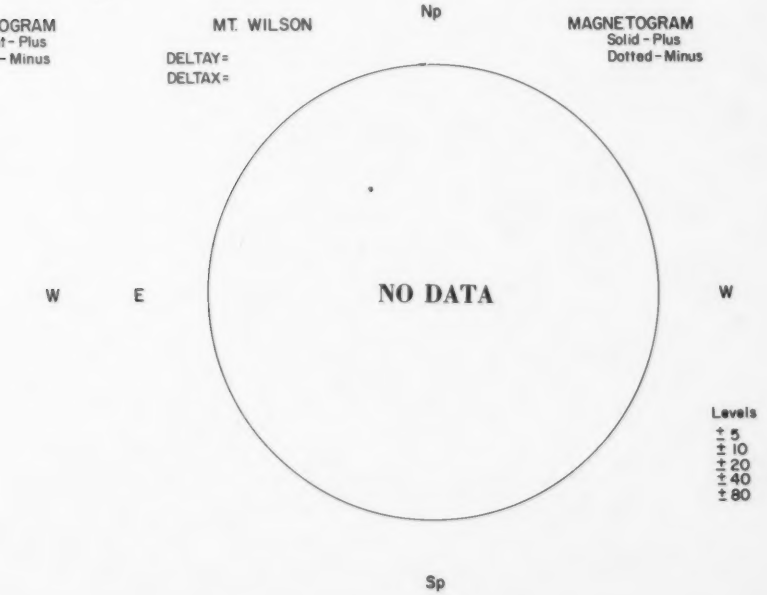
GOOD	M
10 - 1300	2.5
14 - 0400	2.5
15 - 1100	2.5
18 - 0900	2.5

OGRAM
t - Plus
- Minus

MT. WILSON

DELTAY=
DELTAX=

MAGNETOGRAM
Solid - Plus
Dotted - Minus



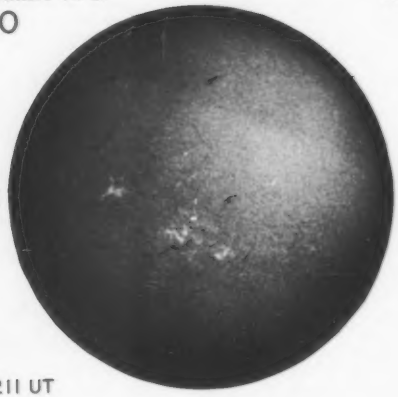
Levels
± 5
± 10
± 20
± 40
± 80

RAMEY AFB

30

Np

Hα



E

W

1211 UT

Sp

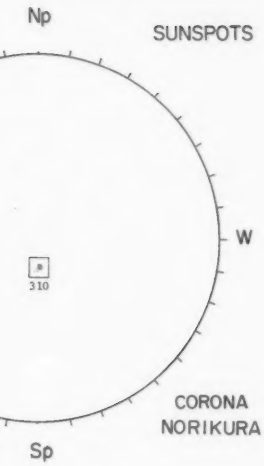
BOULDER

E

2210 UT

NELC LA POSTA

E



Np

2.0CM

W

Sp

ANT. TEMP. UNIT 100°K

91
Oct 74

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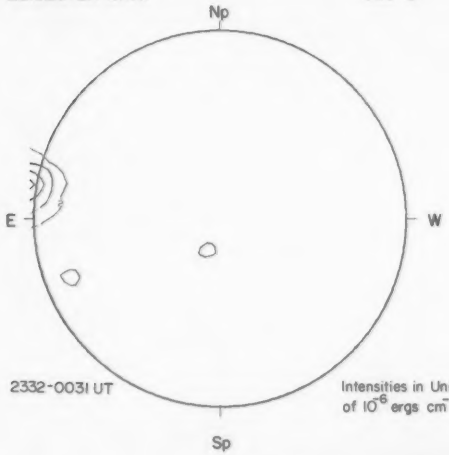
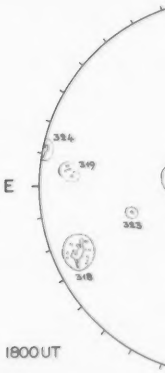
X-RAY
OSO-5



2332-0031 UT

Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

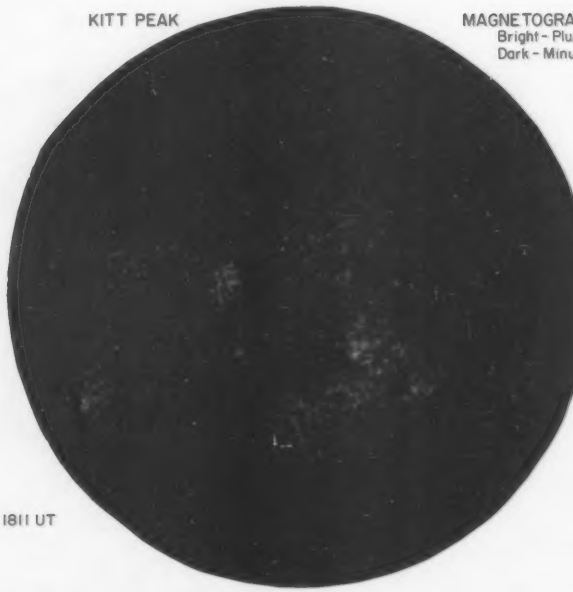
McMATH-HULBER



1800 UT

KITT PEAK

MAGNETOGRA
Bright - Plu
Dark - Minu

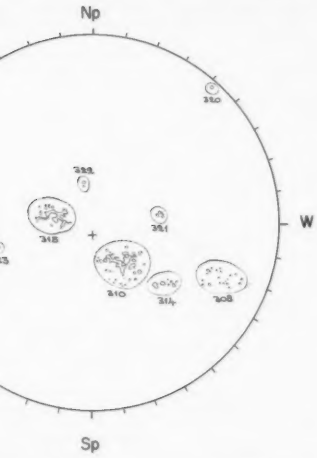


1811 UT

= 24.76, B_o = 4.48, L_o = 23.26)

92
Oct 74

BERT CALCIUM REPORT

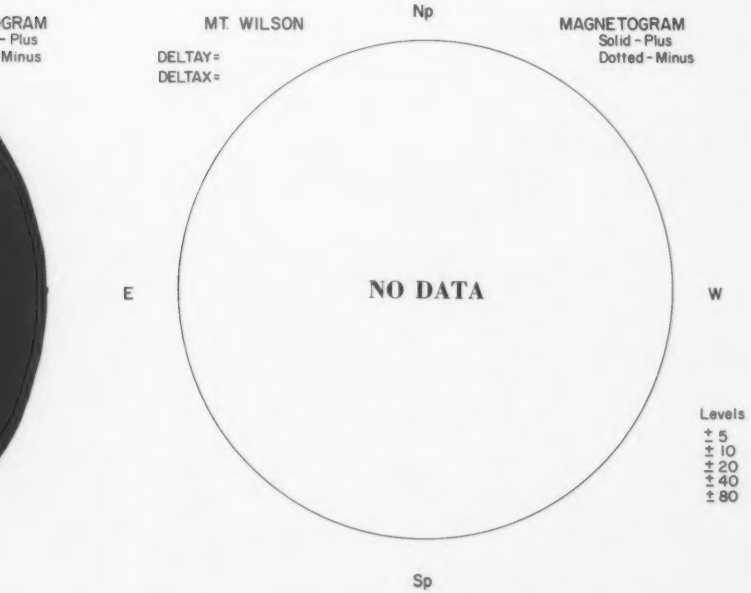


FAIR	M
10 - 1300	- 2.5
14 - 0300	- 2.5
15 - 1000	- 2.5
18 - 1000	- 2.5

GRAM
- Plus
Minus

MT. WILSON
DELTAY=
DELTAX=

MAGNETOGRAM
Solid - Plus
Dotted - Minus



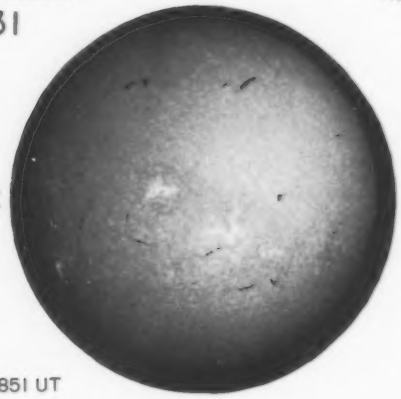
Levels
± 5
± 10
± 20
± 40
± 80

BOULDER

31

Np

Hα



E

W

Sp

1851 UT

BOULDER

Np

E

NO D

Sp

NELC LA POSTA

Np

E

S

Np

SUNSPOTS

DATA

W

CORONA

Sp

Np

2.0 CM

W

Sp

ANT. TEMP. UNIT 100° K

93
Oct 74

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MCMATH REGION 13277 CMP DATE 1.0

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	2	13277	N30 W22	59	100	2.0									

MCMATH REGION 13257 CMP DATE 1.5 RETURN OF REGION 13199 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	25	13257	S12 E80	51	700	3.0									
74	9	26	13257	S12 E65	52	1500	3.0									
74	9	27	13257	S12 E50	54	1500	3.0									
74	9	28	13257	S12 E35	56	1200	3.5									
74	9	29						19481	S12 E24	52	(BP)	3	B	20	6	CRO
74	9	30	13257	S12 E11	53	1100	3.0	19481	S11 E12	51	(BF)	3	B	20	16	BXO
74	10	1	13257	S12 W02	53	1100	3.0	19481	S11 W02	52	(BF)	3	B	10	9	BXO
74	10	2	13257	S12 W15	52	1300	3.0	19481	S11 W18	53	(BP)	3	B	20	16	CRO
74	10	3	13257	S12 W28	52	1300	2.5	19481	S11 W33	56	(BP)	3				
74	10	4	13257	S12 W42	52	1000	2.0	19481	S13 W46	56	(BP)	3	B	20	2	AXX
74	10	5	13257	S12 W55	53	1000	3.0	19481	S12 W61	58	(AP)	3	B	20	2	BXI
74	10	6	13257	S13 W65	51	700	2.0	19481	S11 W75	59	(AP)	2				
74	10	7	13257	S13 W80	53	300	1.5									

MCMATH REGION 13271 CMP DATE 3.4

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	28	13271	S13 E65	26	300	2.0	19479	S08 E68	22	(AP)	2				
74	9	29						19482	S15 E48	28	(B)	2	B	0	6	BXO
74	9	30	13271	S13 E37	27	400	3.0	19482	S15 E33	30	(BP)	3	B	10	2	BXO
74	10	1	13271	S14 E24	27	400	3.0	19482	S15 E21	29	(BP	2	B	0	1	AXX
74	10	2	13271	S14 E11	26	400	2.0	19482	S15 E05	30	(AP)	1	B	0	1	AXX
74	10	3	13271	S14 W03	27	400	1.5									
74	10	4	13271	S15 W17	27	300	1.5									
74	10	5	13271	S15 W30	28	300	1.0	19489	S13 W25	22	(AP)	1				
74	10	6	13271	S16 W39	25	200	1.0									
74	10	7	13271	S16 W59	32	300	1.0									

MCMATH REGION 13262 CMP DATE 3.9 RETURN OF REGION 13205 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	27	13262	N10 E85	19	800	2.5	19478	N08 E85	18	AP		B	50	1	HSX
74	9	28	13262	N10 E70	21	2000	3.5	19478	N08 E68	22	(AP)	4	B	90	2	HSX
74	9	29						19478	N09 E55	21	(AP)	4	B	100	3	HSX
74	9	30	13262	N10 E44	20	1600	3.5	19484	N11 E40	23	(AP)	2				
74	9							19478	N09 E41	22	(AP)	4				
74	10	1	13262	N11 E31	20	1700	3.0	19484	N11 E28	22	(BY)	3	B	90	12	DAI
74	10							19478	N09 E28	22	(AP)	5				
74	10	2	13262	N11 E18	19	1800	3.0	19484	N11 E14	21	(BP)	2				
74	10							19478	N09 E15	20	(BP)	4	B	80	20	CAI
74	10	3	13262	N11 E04	20	1500	3.0	19484	N11 E01	22	(X	2				
74	10							19478	N09 E02	21	(AP)	3				
74	10	4	13262	N11 W10	20	1400	3.0	19484	N11 W13	23	(X)	2				
74	10							19478	N09 W12	22	(AP)	4	B	30	5	CSO
74	10	5	13262	N11 W24	22	1400	2.5	19478	N08 W25	22	(AP)	4	B	30	1	HSX
74	10	6	13262	N10 W34	20	1400	3.0	19478	N08 W38	22	(AP)	3				
74	10	7	13262	N10 W50	23	1200	3.0		N09 W52				B	20	1	AXX
74	10	8	13262	N10 W63	22	800	2.0		N09 W65				B	10	1	AXX
74	10	9	13262	N10 W77	23	800	1.5									

MCMATH REGION 13263 CMP DATE 4.1

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	27	13263	S07 E90	14	400	1.5									
74	9	28	13263	S06 E75	16	1000	3.5	19480	S07 E72	18	(BP)	3	B	50	1	HAX
74	9	29						19480	S07 E59	17	(BP)	4	B	270	52	DSI
74	9	30	13263	S06 E46	18	1800	3.0	19480	S07 E46	17	(BP)	5	B	320	23	ESI

(Cont'd)

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(Cont'd)

74	10	1	13263	S06 E33	18	2100	3.0	19485	S09 E29	21	(AP)	2	B	350	21	ESI
74	10							19480	S07 E33	17	(BP)	5				
74	10	2	13263	S06 E20	17	2600	3.0	19480	S07 E18	17	(BP)	5	B	340	20	EAI
74	10	3	13263	S06 E07	17	2500	3.0	19480	S07 E05	18	(BP)	5				
74	10	4	13263	S06 W07	17	2200	2.5	19480	S06 W08	18	(BP)	5	B	320	8	OSO
74	10	5	13263	S06 W20	18	2000	2.5	19480	S07 W22	19	(BP)	5	B	290	8	OSO
74	10	6	13263	S08 W31	17	1900	3.5	19480	S07 W35	19	(B)	5				
74	10	7	13263	S06 W45	18	1800	3.0		S06 W49				B	290	11	ESO
74	10	8	13263	S06 W59	18	1600	3.0		S06 W63				B	250	7	ESO
74	10	9	13263	S06 W73	19	1600	2.5	19480	S06 W72	17	(BP)	4	B	250	7	ESO
74	10								S06 W76				B	200	5	ESO
74	10	10	13263	S07 W85	18	700	2.5	19480	S06 W87	15	X					

MCMATH REGION 13272 CMP DATE 4.5 RETURN OF REGION 13204 ROTATION 4

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	30	13272	S16 E51	13	400	1.0									
74	10	1	13272	S15 E38	13	400	1.0									
74	10	2	13272	S16 E25	12	300	1.5									
74	10	3	13272	S16 E12	12	300	1.5									
74	10	4	13272	S16 W02	12	300	1.5									
74	10	5	13272	S16 W15	13	300	1.5									
74	10	6	13272	S16 W28	14	300	1.5									
74	10	7	13272	S17 W40	13	300	1.0									
74	10	8	13272	S17 W54	13	300	1.0									

MCMATH REGION 13274 CMP DATE 5.9

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	30	13274	N07 E70	355	300	2.0									
74	10	1	13274	N08 E57	355	200	2.0									

MCMATH REGION 13273 CMP DATE 6.4 RETURN OF REGION 13208 ROTATION 3

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	30	13273	S04 E77	348	200	1.0									
74	10	1	13273	S04 E64	348	500	1.5									
74	10	2	13273	S04 E51	347	500	1.5									
74	10	3	13273	S04 E38	347	500	2.0									
74	10	4	13273	S04 E24	347	400	1.5									
74	10	5	13273	S05 E11	348	400	2.0									
74	10	6	13273	S06 W02	348	500	2.0									
74	10	7	13273	S06 W15	348	600	1.5									
74	10	8	13273	S06 W28	347	600	1.5									
74	10	9	13273	S06 W41	347	400	1.0									
74	10	10	13273	S08 W55	348	300	1.0									
74	10	11	13273	S07 W70	350	300	1.0									

MCMATH REGION 13275 CMP DATE 7.4 RETURN OF REGION 13209 ROTATION 3

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	1	13275	S21 E80	332	300	1.0									
74	10	2	13275	S21 E64	334	400	1.5									
74	10	3	13275	S20 E50	335	400	1.5									
74	10	4	13275	S20 E36	335	300	1.5									
74	10	5	13275	S20 E24	335	300	1.0									
74	10	6	13275	S21 E12	334	500	1.5									
74	10	7	13275	S20 W03	336	500	1.5									
74	10	8	13275	S20 W16	335	500	1.5									
74	10	9	13275	S21 W29	335	400	1.5									
74	10	10	13275	S21 W41	334	400	1.5									
74	10	11	13275	S21 W55	335	400	1.5									
74	10	13	13275	S23 W81	335	200	1.0									

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MCMATH REGION 13278 CMP DATE 8.9

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	2	13278	S18 E85	313	500	1.5									
74	10	3	13278	S18 E74	311	900	2.5									
74	10	4	13278	S18 E58	313	1000	4.0	19487	S19 E55	316	(BP)	3	B	20	8	BXI
74	10	5	13278	S18 E45	314	1600	3.5	19487	S20 E41	317	(BP)	3	B	40	6	CSO
74	10	6	13278	S19 E31	315	1400	3.5	19487	S20 E27	317	(BP)	3				
74	10	7	13278	S19 E17	316	1400	3.5		S18 E13				B	20	30	BXI
74	10	8	13278	S19 E04	315	1700	3.5		S18 E01				B	40	24	DRI
74	10	9	13278	S19 W10	316	2000	3.5	19487	S19 W12	317	(BP)	4	B	70	34	DRI
74	10	10	13278	S19 W23	316	2000	3.5	19487	S18 W29	317	(BP)	4	B	160	29	DAI
74	10	11	13278	S19 W36	316	2200	3.0	19487	S18 W40	318	(BP)	4				
74	10	12						19487	S18 W53	318	(BP)	4	R	100	11	DAI
74	10	13	13278	S19 W62	316	2600	3.0	19487	S18 W68	319	(BP)	3	B	150	8	CSO
74	10	14						19487	S17 W88	327	AP					
74	10	15	13278	S18 W89	316	800	1.0									

MCMATH REGION 13279 CMP DATE 9.9

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	3	13279	N06 E85	300	900	2.5	19486	N05 E80	304	(A)	2				
74	10	4	13279	N07 E72	299	1300	3.0	19486	N05 E66	305	(AP)	2	B	20	1	AXX
74	10	5	13279	N07 E60	299	1500	3.0	19486	N05 E54	304	(AP)	3	B	20	2	HSX
74	10	6	13279	N07 E47	299	1200	3.0	19486	N05 E41	303	(BP)	3				
74	10	7	13279	N07 E33	300	1500	3.0		N06 E26				B	20	7	BXO
74	10	8	13279	N07 E18	301	1200	3.0		N11 E27				B	0	4	AXX
74	10								N05 E12				B	10	28	BXI
74	10	9	13279	N07 E04	302	1400	3.5	19486	N04 E00	305	(BP)	3	B	20	16	BXI
74	10	10	13279	N06 W10	303	1200	3.0	19486	N04 W20	308	(BP	1	B	10	9	BXO
74	10							19494	N12 W04	292	(BP	1				
74	10	11	13279	N07 W23	303	1000	3.0	19494	N12 W14	292	AP					
74	10	13	13279	N07 W50	304	1000	2.5									
74	10	15	13279	N07 W77	304	1000	2.0									
74	10	16	13279	N07 W90	303	500	1.0									

MCMATH REGION 13281 CMP DATE 10.8

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	4	13281	S11 E84	287	700	2.0									
74	10	5	13281	S10 E70	289	1000	2.0	19490	S12 E61	297	BP					
74	10	6	13281	S10 E56	290	1000	2.0	19490	S12 E48	296	(AP)	2				
74	10	7	13281	S10 E41	292	1000	1.5									
74	10	8	13281	S10 E30	289	700	2.5									
74	10	9	13281	S10 E16	290	800	2.5									
74	10	10	13281	S10 E03	290	700	2.5									
74	10	11	13281	S11 W10	290	800	2.5									
74	10	13	13281	S11 W37	291	600	2.0									
74	10	15	13281	S11 W65	292	600	2.0									
74	10	16	13281	S12 W79	292	700	1.5									

MCMATH REGION 13280 CMP DATE 11.6 RETURN OF REGION 13225 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	4	13280	N12 E85	286	1500	3.5	19488	N09 E81	290	(BP)	3	B	50	1	HSX
74	10	5	13280	N11 E78	281	3200	3.5	19488	N10 E67	291	(BP)	3				
74	10							19491	N11 E77	281	(AP)	3	B	50	5	CSI
74	10							19492	N10 E81	277	(A)	4	B	160	2	CKO
74	10	6	13280	N10 E65	281	4000	3.5	19488	N10 E55	289	(BP)	3				
74	10							19491	N10 E61	283	(AP)	3				
74	10							19492	N08 E71	273	(Y)	4				
74	10	7	13280	N10 E52	281	5300	3.0		N11 E42				B	30	11	BXO
74	10								N10 E58				B	350	68	DKI
74	10								N11 E48				B	70	1	HSX
74	10	8	13280	N10 E39	280	6300	3.5		N08 E45				B	410	58	DKI
74	10															

(Cont'd)

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(Cont'd)										N11 E35					B	80	7	HSX
74	10	9	13280	N09 E26	280	6500	4.0	19488	N10 E15	290	X							
74	10							19491	N10 E21	284	(AP)	4	B	70	4	HSX		
74	10							19493	N03 E29	276	(A)	2						
74	10							19492	N08 E30	275	(D)	4	B	300	99	DAI		
74	10								N11 E35				B	80	7	HSX		
74	10	10	13280	N10 E13	280	6200	3.5	19488	N08 W01	289	X							
74	10							19491	N10 E03	285	(AP)	5						
74	10							19495	N11 E03	285	(BP)	3	B	450	26	CKO		
74	10							19493	N03 E12	276	(A)	3						
74	10							19492	N08 E14	274	(D)	4	B	210	87	EKC		
74	10	11	13280	N10 E00	280	6200	4.5	19491	N10 W06	284	(AP)	5						
74	10							19495	N11 W04	282	(BP)	4						
74	10							19493	N04 E02	276	(A)	2						
74	10							19492	N08 E04	274	(D)	5						
74	10	12						19491	N10 W20	285	(AP)	4						
74	10							19495	N11 W19	284	(D)	4	R	180	28	DAI		
74	10							19493	N03 W09	274	(A)	1						
74	10							19492	N09 W07	272	(D)	5	R	430	50	DKC		
74	10	13	13280	N10 W26	280	6500	3.5	19491	N10 W34	285	(AP)	4						
74	10							19495	N11 W33	284	(D)	5	B	370	28	DKI		
74	10							19493	N03 W22	273	A							
74	10							19492	N08 W21	272	(D)	4	B	500	99	DKC		
74	10	14						19491	N11 W47	286	(AP)	5						
74	10							19495	N12 W47	286	(BY)	4	B	220	10	DAI		
74	10							19492	N09 W35	274	(D)	5	B	340	72	DAI		
74	10	15	13280	N10 W52	279	6500	4.0	19491	N11 W59	285	(AP)	3	B	160	8	DAI		
74	10							19495	N12 W59	285	(BP)	4						
74	10	16	13280	N09 W65	278	6600	5.0	19491	N10 W72	284	(AP)	2						
74	10							19495	N12 W72	284	(BP)	3	B	140	10	DAI		
74	10							19492	N08 W61	273	(BF)	4	B	280	23	DKI		
74	10	17	13280	N09 W78	278	5500	3.5	19495	N12 W85	284	X							
74	10							19492	N08 W75	274	Y		B	180	22	DKI		
74	10	18	13280	N09 W88	275	3800	3.0											

MCMATH REGION 13282 CMP DATE 12.2 RETURN OF REGION 13224 ROTATION 3 & 4

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	HW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	5	13282	S11 E90	269	500	1.0									
74	10	6	13282	S13 E79	267	700	1.5									
74	10	7	13282	S12 E62	271	1500	1.5									
74	10	8	13282	S12 E49	270	1500	2.0									
74	10	9	13282	S12 E35	271	1200	2.0									
74	10	10	13282	S12 E22	271	1600	2.0									
74	10	11	13282	S12 E09	271	1400	2.0									
74	10	13	13282	S12 W15	269	1500	2.5									
74	10	15	13282	S13 W44	271	1200	2.0									
74	10	16	13282	S13 W57	270	1000	2.0									
74	10	17	13282	S12 W70	270	800	2.0									
74	10	18	13282	S12 W84	271	800	1.0									

MCMATH REGION 13283 CMP DATE 13.8

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	HW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	13	13283	S06 E03	251	200	1.0									

MCMATH REGION 13289 CMP DATE 14.2

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	HW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	17	13289	S05 W44	244	100	1.0									

MCMATH REGION 13284 CMP DATE 15.0

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	HW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	13	13284	S04 E17	237	200	1.0									
74	10	14							S08 E06				B	0	1	AXX
74	10	15	13284	S05 W08	235	300	1.5									
74	10	16	13284	S06 W21	234	200	1.0									
74	10	17	13284	S05 W34	234	200	1.0									

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MCMATH REGION 13296 CMP DATE 15.5

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	19	13296	N03 W54	228	200	2.0									
74	10	20	13296	N03 W66	227	200	1.5									

MCMATH REGION 13285 CMP DATE 15.7

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	13	13285	S16 E28	226	400	1.5									
74	10	15	13285	S17 E02	225	500	1.5									
74	10	16	13285	S17 W11	224	400	1.5									
74	10	17	13285	S17 W24	224	400	1.0									
74	10	18	13285	S17 W36	223	400	1.0									
74	10	19	13285	S17 W50	224	400	1.0									
74	10	20	13285	S17 W62	223	400	1.0									

MCMATH REGION 13292 CMP DATE 16.4

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	18	13292	N07 W28	215	200	3.5	19496	N08 W28	215	(AF)	2	B	80	2	CRO
74	10	19	13292	N07 W42	216	500	2.5	19496	N08 W46	216	(B)	2	B	20	5	BXO
74	10	20	13292	N07 W55	216	800	3.0	19496	N08 W56	217	(BF)	4	B	40	13	CSO
74	10	21	13292	N06 W69	216	700	2.5	19496	N08 W69	216	(BF)	3	B	100	3	CSO
74	10	22	13292	N06 W84	218	800	2.5		N07 W80				R	60	3	HSX

MCMATH REGION 13286 CMP DATE 16.9

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	15	13286	S08 E17	210	100	2.5									
74	10	16	13286	S08 E04	209	100	2.5									

MCMATH REGION 13302 CMP DATE 18.1

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	21	13302	S12 W46	193	100	1.0									
74	10	22	13302	S12 W60	194	400	1.5									
74	10	23	13302	S12 W79	196	400	2.5		S09 W66				M	10	2	BXO
74	10	24	13302	S11 W90	198	300	1.0									

MCMATH REGION 13293 CMP DATE 18.1

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	18	13293	S10 W06	193	200	2.0									
74	10	19	13293	S10 W20	194	100	1.5									

MCMATH REGION 13303 CMP DATE 18.2

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	21	13303	N15 W44	191	100	1.0									

MCMATH REGION 13291 CMP DATE 19.0

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	17	13291	N58 E19	181	100	1.5									

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MCMATH REGION 13290 CMP DATE 19.2

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
74	10	17	13290	N08 E22	178	100	1.0								

MCMATH REGION 13294 CMP DATE 19.7

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
74	10	18	13294	S02 E15	172	100	1.0								

MCMATH REGION 13304 CMP DATE 19.9

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
74	10	22	13304	N21 W35	169	100	1.0								

MCMATH REGION 13295 CMP DATE 20.1

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
74	10	18	13295	N53 E20	167	100	1.0								
74	10	19	13295	N53 E07	167	100	1.0								

MCMATH REGION 13306 CMP DATE 20.9

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
74	10	23	13306	S30 W40	157	100	2.0								

MCMATH REGION 13300 CMP DATE 21.4

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
74	10	20	13300	S04 E11	150	200	1.5								
74	10	21	13300	S04 W03	150	200	1.5								
74	10	22	13300	S04 W17	151	100	2.0								

MCMATH REGION 13305 CMP DATE 22.0

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
74	10	22	13305	N38 W07	141	100	1.5								
74	10	23	13305	N38 W24	141	100	1.0								

MCMATH REGION 13307 CMP DATE 24.7

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
74	10	23	13307	S04 E10	107	100	1.0								
74	10	24	13307	S03 E01	107	100	1.5								
74	10	25	13307	S03 W12	107	100	1.5								

MCMATH REGION 13297 CMP DATE 25.2

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
74	10	19	13297	S05 E76	98	200	1.0								
74	10	20	13297	S04 E62	99	200	1.0								

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MCMATH REGION 13301 CMP DATE 25.3

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
74	10	20	13301	N01 E63	98	100	1.5								

MCMATH REGION 13312 CMP DATE 26.0

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
74	10	25	13312	N32 E05	90	100	1.5								

MCMATH REGION 13320 CMP DATE 26.1

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
74	10	31	13320	N47 W75	88	100	1.0								

MCMATH REGION 13316 CMP DATE 26.3

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
74	10	27	13316	S16 W17	85	200	1.5								
74	10	28	13316	S17 W31	86	200	1.0								

MCMATH REGION 13317 CMP DATE 27.2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
74	10	30	13317	N13 W46	73	100	1.0								

MCMATH REGION 13308 CMP DATE 28.5 RETURN OF REGION 13257 ROTATION 3

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
74	10	23	13308	S17 E74	43	200	1.5								
74	10	24	13308	S15 E58	50	400	1.5								
74	10	25	13308	S15 E42	53	600	1.5								
74	10	26	13308	S14 E23	57	700	1.5								
74	10	27	13308	S14 E12	56	700	1.5								
74	10	28	13308	S14 W02	57	600	1.0								
74	10	30	13308	S14 W34	61	400	2.0								
74	10	31	13308	S14 W47	60	400	1.0								
74	11	1	13308	S14 W60	62	400	1.0								
74	11	2	13308	S15 W75	64	300	1.0								

MCMATH REGION 13309 CMP DATE 28.8

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
74	10	23	13309	N07 E72	45	100	1.0								
74	10	24	13309	N08 E61	47	200	1.5								
74	10	25	13309	N08 E47	48	100	1.0								
74	10	26	13309	N07 E30	50	200	3.5		N08 E28				B	10	4 BXI
74	10	27	13309	N07 E17	51	300	3.0	19498	N08 E15	52	(BF)	2	B	10	5 BXO
74	10	28	13309	N07 E03	52	200	2.5								
74	10	30	13309	N07 W26	53	200	1.5								

MCMATH REGION 13313 CMP DATE 29.0

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
74	10	25	13313	N27 E48	47	100	1.0								
74	10	26	13313	N27 E32	48	100	1.0								

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MCMATH REGION 13314 CMP DATE 30.1

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	10	26	13314	S14 E46	34	300	3.0
74	10	27	13314	S14 E34	34	700	3.0
74	10	28	13314	S14 E21	34	700	3.0
74	10	29					
74	10	30	13314	S14 W08	35	400	2.5
74	10	31	13314	S14 W22	35	300	2.5
74	11	1	13314	S14 W34	36	300	2.0
74	11	2	13314	S14 W47	36	300	1.5

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
	S13 E46				B	20	3	BXO
19499	S13 E30	37	(BP)	3	B	10	6	BXO
	S13 E19				B	30	6	BXO
19499	S13 E03	37	(A)	2				

MCMATH REGION 13321 CMP DATE 30.2

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	10	31	13321	N06 W21	34	200	2.0
74	11	1	13321	N06 W33	35	100	1.0

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 13311 CMP DATE 30.7 RETURN OF REGION 13262 ROTATION 3

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	10	25	13311	N09 E71	24	300	1.0
74	10	26	13311	N09 E58	22	300	1.0
74	10	27	13311	N10 E44	24	400	2.0
74	10	28	13311	N10 E30	25	400	1.0
74	10	30	13311	N10 E00	27	200	1.0

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 13310 CMP DATE 31.0 RETURN OF REGION 13263 ROTATION 2

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	10	24	13310	S07 E86	22	600	1.5
74	10	25	13310	S08 E74	21	1200	2.5
74	10	26	13310	S07 E60	20	1200	3.0
74	10	27	13310	S08 E48	20	1700	3.5
74	10						
74	10	28	13310	S07 E33	22	1700	3.5
74	10						
74	10	29					
74	10						
74	10	30	13310	S07 E04	23	1300	2.5
74	10	31	13310	S07 W10	23	1300	2.5
74	11	1	13310	S07 W21	23	1400	2.5
74	11	2	13310	S07 W34	23	1400	2.5
74	11	3	13310				
74	11	4	13310				
74	11		13310				
74	11	5	13310				

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
19497	S07 E76	27	AP		M	130	1	HSX
19497	S06 E67	27	(AP)	3	B	100	1	HSX
	S06 E58				B	80	1	HSX
19497	S07 E43	24	(BP)	4	B	90	5	HSX
19500	S10 E46	21	X	3	B	0	3	BXO
	S09 E33				B	10	2	AXX
	S06 E28				B	110	3	HSX
19497	S06 E16	24	(AP)	5	B	140	1	HSX
19500	S10 E18	22	X					
19497	S07 E02	26	(AP)	4	B	80	4	HSX
19497	S06 W12	26	(AP)	4	R	50	2	HSX
	S05 W25				B	30	2	HSX
19497	S06 W38	26	(AP)	4	H	30	1	HRX
19497	S06 W52	27	(AP)	3	R	10	1	AXX
19497	S06 W66	26	(AP)	2	B	10	1	AXX
19507	S10 W65	25	(BP	2				
19497	S06 W78	27	(B)	3	B	50	6	DSI

Note: Region 13271 developed on the disk, near the east limb in the same location as short-lived region 13216 of the previous rotation.
Region 13314 is new plage which has formed in the location of old plage 13271 of the previous rotation.
No calcium spectroheliograms were secured at the McMath-Hulbert Observatory on October 12, 14 and 29, 1974.
No sunspot observations were made at Mt. Wilson Observatory on October 7, 8, 26 and 28, 1974.

DAILY CALCIUM PLAGE INDEX

OCTOBER 1974

YR	MO	DAY	INDEX
74	10	1	15.2
74	10	2	18.5
74	10	3	17.6
74	10	4	16.0
74	10	5	19.5
74	10	6	24.8
74	10	7	27.5
74	10	8	33.7
74	10	9	40.2
74	10	10	35.7
74	10	11	40.2
74	10	12	*
74	10	13	30.2
74	10	14	*
74	10	15	19.2
74	10	16	15.1
74	10	17	4.6
74	10	18	1.6
74	10	19	1.6
74	10	20	2.0
74	10	21	1.0
74	10	22	0.8
74	10	23	0.6
74	10	24	0.6
74	10	25	1.8
74	10	26	4.2
74	10	27	10.3
74	10	28	11.3
74	10	29	*
74	10	30	8.4
74	10	31	8.6

* NO OBSERVATIONS

SUDDEN IONOSPHERIC DISTURBANCES

OCTOBER 1974

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	McMATH REGION
01	1326	1420	1340	1	1			1					*	
02	0100	0216	0132	1-	1				1				0101	13262
02	2104	2228D	2126	1	5				1		4		NF	
04	1420	1510	1432	1-	5				1		4		1414	13278
04	2241	0130	2330	1	1				1				*	
05	0343	0425	0352	1-	1				1				0341	13280
05	0732	0805	0747	1-	1			1					0735	13263
05	0810	0902	0820	1-	1			1					0809	13280
05	1208	1253	1214	1-	1			1					*	
05	1408	1415D	1415	1-	1				1		1		1405	13263
06	0115	0224D	0141	1 5	2				3		1		0108	13280
06	0224E	0417	0241	1 5					2		1		0228	13280
06	2123	2207	2140	1 5	2				2		5		2117	13280
07	0429	0504	0433	1-	1				1				0431E	13280
07	0851	0859D	0859	1-	1						1		0855E	13280
08	1112	1258	1130	1+	3			1	1		1		1113	13280
08	1312	1330	1315	1-	5	1		1	4		2		1310	13280
08	1351	1420	1355	1-	1				1		1		1349	13280
08	1449	1530	1452	1+	5	2		4	5		10		1449	13280
08	1744	1830	1750	1-	5	2		1	1		10		1741	13280
08	1905	1930	1910	1-	1				1				1908	13280
09	1244	1307	1250	1-	1			1					1248	13279
09	1650	1710	1655	1-	1				1				1650	13278
10	0619	0707	0632	1-	1				1				0618	13279
10	1052	1230	1112	1-	1						1		1056E	13279
10	1510	1600	1516	1-	5				1		8		1510	13280
10	1722	1730	1726	1-	1				1		1		1723E	13280
10	1805	1945	1806	1	5	3	1		3	1	11		1808	13280
10	1830	1952	1837	1	5	3	1		4	1	11		1820	13280
11	0137	0300	0152	1	3	2		1	2				NF	
11	0326	0608	0332	2	5	2	1	1	2		2		0329E	13280
11	0732	0759	0750	1-	1			1					0739	13280
11	0759	0820	0801	1-	1						1		0757	13280
11	0834	0910	0839	1	5	2		5	2		4		0830	13280
11	1014	1210	1033	2+	5	2	1	6	4		3		1006E	13280
11	1228	1322	1243	1-	1			1					1223E	13280
11	1259	1342	1301	1	5	3		1	4		3		1258	13280
11	1422	1428D	1428	1+	5	2	1	7	3		13		1420	13280
11	1440	1600	1455	2	5	4	2	6	3	1	14		1437E	13280
11	1730	1826	1735	1+	5	3	1	2	2	1	12		1725	13280
11	1830	1930	1838	1-	5	2			2		9		1829E	13280
12	0136	0202	0141	1-	1				1				0137	13280
12	0721	0740	0726	1	3				3				0718	13280
12	0836	0919	0903	1-	1			1					0843	13280
12	1146	1310	1153	2+	5	5	1	6	4		3		1148	13280
12	1314	1500	1321	1	3				2		1		1315	13280
12	1428E	1448	1445	1-	1			1					1426	13280
12	1725	1840	1740	1	5	2			3		12		1726	13280
12	1900	2030	1915	1-	5	2			3		11		1858	13280
13	0510	0716	0525	1	3	2			2				0513	13280
13	0922	1135	1000	1+	3				1		1		0926E	13280
13	1017	1040	1018	1-	1			1					1015E	13280
13	2255	2341	2306	1-	1				1				2251	13280
14	1626	1800	1635	1	5	2		1	3	1	8		1623	13280
15	0816	0900	0822	1+	5	2	1	2	3		2		0812	13280
15	1236	1245D	1245	1-	1				1				1233	13280
15	1249	1303	1259U	1-	1			1					1242E	13280
15	1322	1500	1333	2+	5	4	1	5	5		10		1324	13280
15	2017	2130	2021	1-	3	1					4		2013	13280
16	0033	0103	0049	1-	1				1				0028	13280
16	0728	0755	0733	1-	1						1		0728	13280
16	1300	1430	1314	2+	5	4	1	6	5		5		1256E	13280
16	2335	0026	2352	1-	1				1				*	
17	0414	0518	0424	1-	5	2		1	2		1		0412	13280
17	1750	1910	1815	1-	1						1		1748	13280
18	0355	0517D	0419	1-	1				1				0359	13280
18	2120	2202	2125	1-	5				2		2		NF	

SUDDEN IONOSPHERIC DISTURBANCES

OCTOBER 1974

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	McMATH REGION
19	0045	0252	0114	1	5	2			3		1		NF	
19	1705	1727D	1727	1-	3			1			3		NF	
19	1747	1849	1753	1	3	1					6		NF	
26	1555	1635	1607	1-	3			1			4		NF	
27	0902	0928	0910	1-	1			1					*	
31	1544	2000	1559	3	5	3	1	2	6	1	12		1539	13324

PERIODS OF NO OBSERVATIONS:

DATE	TIME (UT) and STATION
01-23	0000-2400 A28
01	1005-1134 (16 kHz), 1141-1335 UM (16 kHz), 1754-2332 TM, 2000-2400 UM (14 kHz)
02	0412-0748 TM, 1412-0748 TM
03	0835-1140 UM (21 kHz), 1207-2400 UM (21 kHz)
04-06	0000-2400 A29
04	0844-0944 UM (21 kHz), 0955-1051 UM (21 kHz), 1405-1510 UM (21 kHz), 1410-1510 UM (14 kHz), 1535-1619 UM (21 kHz), 1635-1719 UM (14 kHz)
05-06	0000-2400 A4
08	0430-1325 A21, 1005-1325 UM (16 kHz), 1958-2400 UM (21 kHz)
09	0000-2400 A4, 0000-2240 UM (21 kHz), 2249-2400 UM (21 kHz)
10	0000-0141 UM (21 kHz)
11	1358-1730 UM (14 kHz)
13	0218-1459 TM
14-20	0000-2400 A30
14	0000-2400 A4, 1347-1441 MC
15	0000-2400 A4, 1005-1321 UM (16 kHz)
16	1308-1737 UM (21 kHz), 1757-1817 UM (21 kHz)
18	1400-1717 UM (14 kHz)
21-24	0000-2400 A32
21	1309-1625 UM (21 kHz)
22	1043-1229 UM (16 kHz)
23	1310-1927 UM (21 kHz)
25	0005-0122 UM (21 kHz), 0540-1525 BO, 1400-1707 UM (14 kHz), 2013-2018 TM
26	0000-2400 A32, 1445-1833 BO
27	0000-2400 A32
28	1010-1347 UM (16 kHz), 1306-2400 UM (21 kHz)
29	0000-1850 UM (21 kHz)
30	0000-2400 A28, 0230-0304 UM (21 kHz), 0706-0807 UM (21 kHz), 1310-1744 UM (21 kHz)
31	0000-2400 A28, 0000-2400 A30

STATIONS REPORTING FOR OCTOBER 1974

AAVSO (A1) (SEA) (A1, A4, A19, A21, A28, A29, A30, A31, A32, A35, A36, A37, A40) (SES) (A31) (SWF)
AREQUIPA (AQ) (SPA)
BEARLY(BY) (SWF)
BOULDER (BO) (SEA, SCNA)
DARMSTADT (DA) (SWF)
HERSTMONCEUX (HC) (SEA)
HIRAISO (HI) (SEA)
HOBART (TA) (SEA)
HUANCAYO (HU) (SWF)
INUBO (IN) (SPA)
JOHANNESBURG (JH) (SPA)
KUHLUNGSBORN (KU) (SWF, SEA, SPA)
KULA (KL) (SPA)
MANILA (MA) (SWF, SPA)
MCMATH (MC) (SWF, SCNA)
NEUSTRELITZ (NU) (SCNA)
NEW DELHI (ND) (SWF, SCNA, SES)
PANSKA VES (PU) (SWF, SEA, SES)
POITIERS (PO) (SEA)
PRESTON (LO) (SEA)
SOMERTON (SO) (SWF)
SAO PAULO (UM) (SPA, SES)
SOFIA (SF) (SES)
ST CLOUD (SC) (SES)
TABLE MOUNTAIN (TM) (SPA, LF-SPA)
TORINO (TN) (SPA)
TORTOSA (TS) (SEA)
UPICE (UI) (SPA)

NOTE: A40 IS A NEW OBSERVER REPORTING FOR THE FIRST TIME FROM LA CRESENTA, CALIFORNIA

SIDS BY McMATH REGION

DAY	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
REGION																															
62		1																													
63					2																										
78				1						1																					
79										1	2																				
80					2	3	2	6		4	11	8	4	1	5	3	2														
24																															1
X-RAY																															
UNKNOWN		1									1							2	3							1	1				
NO FP	1			1	1											1															

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

OCTOBER 1974

OCT 1974	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: CENTIMETRIC BAND START UT	CENTIMETRIC BAND END UT	CENTIMETRIC BAND INT.	DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT.	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT.	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT.	SPECTRAL TYPE
01	0000	0100	BOUL													
	0000	0323	MANI										0144.7	0145.1	1	III
	0548	1642	DURN													
			WEIS							0620.0	1220.0	1				IN
	0610	1620	WEIS							0629.5	0631.0	1				IIIG
	0504	0939	MANI										0629.7	0631.4	3	CONT
			WEIS							0703.2	0703.6	1				IIIB
			WEIS							1256.3	1300.0	1				IIIG
	1044	2221	SGMR										1258.0	1258.2	1	III
	1316	2245	HARV							1316 E	1550	1				I
			HARV							1557	1716	1				IN
			HARV							1744	1745	3	1744	1745	3	IIIGG,V
	1300	2400	BOUL							1744.0	1745.0	3	1744.0	1745.0	3	III
			SGMR										1744.1	1749.2	2	IIIG
			HARV							1747	1749	1	1747	1749	2	IIIG
			BOUL							1748.0	1749.2	2	1748.0	1749.2	2	IIIG
			HARV							1907	2204	1				IN
			BOUL							2252.1	2256.9	2	2252.1	2256.9	2	III
	2145	2400	MANI										2252.2	2252.9	1	IIIG
			BOUL							2302.0	2312.5	1	2302.0	2312.5	1	II
			BOUL							2303.3	2319.2	1				II
			BOUL							2340.6	2341.7	2	2340.6	2341.7	2	IIIG
02	0000	0100	BOUL													
	0000	0939	MANI													
	0548	0835	DURN													
	0612	0630	WEIS							0614.0	0630.0	1				IS
	0650	1617	WEIS							0625.2	0625.4	1				IIIB
			WEIS							0627.0	0629.5	2				IIIG
			WEIS							0823.0	1616.0	1				IN
	0855	1651	DURN													
			WEIS							0855.4	0855.6	2				IIIB
	1317	2245	HARV							1442	2245 D	1				IN
			WEIS							1613.0	1613.5	1				IIIG
	1300	2400	BOUL							1613.5	1615.0	1	1613.5	1615.0	1	III
			HARV							1651	1652	3	1651		3	IIIG
			BOUL							1651.0	1651.7	2	1651.0	1651.7	2	IIIG
	1046	2218	SGMR										1651.2	1651.4	1	III
			BOUL							2013.4	2013.6	1				III
			BOUL							2018.8	2021.9	2	2018.8	2021.9	2	IIIG
			HARV							2019	2021	3	2019	2021	3	IIIGG,V
			SGMR										2019.2	2021.2	2	IIIG
	2145	2400	MANI													
			HARV							2145	2146	3	2145	2146	3	IIIG
			BOUL							2145.4	2146.2	2	2145.4	2146.2	2	III
			SGMR										2145.4	2145.8	1	III
03	0000	0937	MANI													
	0000	0100	BOUL													
	0558	1843	DURN													
	0614	1612	WEIS							0619.8	0620.5	2				IIIG
			WEIS							0621.8	0624.5	2				IIIG
			WEIS							0718.0	1554.0	1				IN
	1046	2217	SGMR													
	1317	2245	HARV													
	1520	1651	DURN													
	1300	2400	BOUL							1725.8	1726.2	1	1725.8	1726.2	1	IIIG
			BOUL							2117	2400	1	2117	2400	1	IV
	2145	2400	MANI													
04	0000	0446	MANI													
	0000	0100	BOUL													
	0550	0935	MANI													
	0641	1233	WEIS							0750.0	1233.0	2				IS
	0558	1644	DURN							0848	1644 D	2				I
	1300	2400	BOUL							1320	2245	1				IS
	1316	2245	HARV							1321	1522	1				IN
			HARV							1522	1711	1				I
			BOUL							1633.5	1633.6	1				III
			HARV							1711	2120	1				IN
			HARV							1724	1729	3	1724	1729	3	IIIGG,U
			BOUL							1724.3	1731.3	3	1724.3	1731.3	3	IIIGG
	1047	2216	SGMR										1724.8	1727.3	2	IIIG
			BOUL										1820	2400	1	CONT
			HARV							2120	2245 D	1				I
	2145	2400	MANI													
05	0000	0100	BOUL										0000	0025	1	CONT
	0000	0933	MANI										0351.0	0351.3	2	III
	0557	1643	DURN							0557 E	1643 D	1				I
	1049	2214	SGMR													
	1300	2400	BOUL							1307	1340	1	1307	1340	1	IV
	1317	2245	HARV							1326	1707	1				IN
			BOUL							1340	1500	1				IS
			BOUL							1500	1830	2	1500	1830	2	IV
			HARV										1619	1707	1	IN
			HARV							1620	1626	1	1620	1626	1	IIIG
			HARV							1626	1627	2	1626	1627	2	UNCLF
			HARV							1824	1825	1				IIIGG
			HARV							1937	1938	1				IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

OCTOBER 1974

OCT 1974	TIMES OF OBSERVATION		STATION	EVENTS													SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.		
05	2145	2400	MANI														
06	0000	0933	MANI														
	0000	0030	BOUL														
	0557	1642	DURN							0557 E	1642 D	1					IC
	1050	2213	SGMR										1224.9	1225.2	2		III
			SGMR										1226.7	1227.7	2		V
	1316	2248	HARV														
	1300	2400	BOUL										1400	2400	1	IV	
			BOUL							1918.7	1919.6	2	1918.7	1919.6	2		IIIG
			SGMR										1918.8	1919.1	1		III
	2145	2400	MANI														
07	0000	0933	MANI														
	0000	0030	BOUL										0000	0025	1	IV	
	0557	1640	DURN														
	1051	2211	SGMR										1203.2	2211.0	1		CONT
	1300	2400	BOUL							1306	1720	2	1306	1720	2	IV	
	0830	1616	WEIS							1357.1	1357.3	1					III,OP,RS
	1317	2245	HARV							1502	2108	2	1502	2022	2		I
			BOUL							1720	2030	2	1720	2030	2	IV	
			HARV							1750	1941	1	1750	1941	1		IIIS,RS
			BOUL							2030	2400	2	2030	2400	2	IV	
	2145	2400	MANI														
08	0000	0933	MANI														
	0000	0038	BOUL							0000	0023	2	0000	0023	2	IV	
	0557	1558	DURN														
	0615	1619	WEIS							0804.0	1510.5	1					IIINGGOPRS
	1052	2209	SGMR										1052.0	1315.5	1		CONT
	1300	2400	BOUL							1303.9	2400	2	1303.9	2400	2	IV	
			WEIS							1311.5	1311.6	1					IIIB
			SGMR										1315.5	2209.0	2	IV	
	1317	2245	HARV							1457	1700	1	1457	1700	1		I
			HARV							1554	2024	2	1554	2024	2		IIIS,RS,OP
			HARV							1556	1604	1	1556	1604	1	II	
	1629	1640	DURN														
			HARV							1700	1934	2	1700	1934	2		IC
			HARV							1912	1914	2	1912	1914	2		UNCLF
			HARV							1934	2105	1	1934	2105	1		I
			HARV							2029		2					IIIG
	2146	2400	MANI														
09	0000	0932	MANI														
	0000	0030	BOUL							0000	0025	2	0000	0025	2	IV	
	0615	0801	WEIS														
	0805	1620	WEIS														
	1053	2207	SGMR										1200.0	2207.0	1		CONT
			BOUL							1303	2400	2	1303	2400	2	IV	
	1316	2245	HARV							1319	2007	1					I
			HARV										1513	2204	1		IN
			HARV							1640	1754	2	1640	1754	2		IIIN,RS,OP
			HARV							1758	2055	2	1758	2055	2		IIIS,RS,OP
			HARV							2007	2245 D	2					I
			HARV							2057	2238	1	2057	2158	1		IIIN
	2146	2400	MANI														
10	0000	0932	MANI														
	0000	0030	BOUL							0000	0030	2	0000	0030	2	IV	
	0619	1605	WEIS							0619.0	1249.0	1					IN
			WEIS							0655.0	1412.5	1					IIINGGOPRS
			WEIS							0737.4	0737.6	1					IIIB
			WEIS							0820.5	0821.4	2					IIIG
			WEIS							0918.0	0918.1	2					IIIB
	1054	2206	SGMR										1054.0	2206.0	1		CONT
			WEIS				1231.8	1232.3	1								IIIG
	0910	1640	DURN				1231.8	1232.4	2	1231.8	1232.0	2					IIIG
	1300	2400	BOUL							1314.1	1732	2	1314.1	1732	2	IV	
	1332	2245	HARV							1332 E	1637	1					I
			DURN				1402.8	1403.4	2	1402.6	1402.9	3					IIIG
			WEIS				1402.8	1402.9	1								IIIG
			HARV										1454	1639	1		IN
			HARV							1553	1639	2	1553	1639	2		IIIN,RS,OP
			HARV							1637	2245 D	2	1639	2042	2		I
			HARV							1640	2000	2	1640	2000	2		IIIS,RS,OP
			HARV							1644	1645	2	1644	1645	2		IIIG
			BOUL							1732	2200	2	1732	2200	2	IV	
			HARV							1858	1859	2					IIIG
			HARV							1954	1955	2					IIIG
			HARV							2003	2129	2	2007	2105	2		IIIN
			HARV							2043	2045	3					IIIG
	2146	2400	MANI														
			BOUL							2200	2400	2	2200	2400	2	IV	
11	0000	0030	BOUL							0000	0020	2	0000	0020	2	IV	
	0000	0931	MANI										0328.1	0331.3	3		CONT
			MANI										0331.3	0340.4	1		CONT
			MANI										0335.2	0336.1	1	II	
			MANI										0336.3	0341.5	3		IIIG
			MANI										0347.2	0342.7	2		III

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

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OCT 1974	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: CENTIMETRIC BAND START UT	CENTIMETRIC BAND END UT	CENTIMETRIC BAND INT.	DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT.	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT.	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT.	SPECTRAL TYPE
11	0557	1415	DURN							0615.9	0618.0	2				IIIGG
	0630	0823	WEIS							0649.0	0823.0	1				IN
	0828	1600	WEIS							0705.5	0706.6	2				IIIG
			DURN				0705.5	0706.5	2	0705.5	0706.5	2				IIIGG
			WEIS							0747.4	0749.0	2				IIIG
			DURN							0747.5	0748.0	2				IIIGG
			WEIS							0757.5	0800.0	2				IIIG
			WEIS							0759.1	0801.0	1				UNCLF
			DURN				0759.1	0801.0	1	0759.4	0800.7	2			IV	
			DURN				0759.5	0759.6	2	0757.9	0759.6	3				IIIGG
			MANI										0759.7	0800.3	2	III
			WEIS							0828.0	1600.0	1				IOC,S
			WEIS				0830.0	0835.5	1							UNCLF
			WEIS							0830.2	0837.8	3				IIIGG
			DURN				0831.5	0835.3	2	0831.7	0834.2				IV	
			DURN				0831.7	0835	3	0830.4	0837.4	3				IIIGG
			WEIS							1028.2	1030.0	2				IIIG
			DURN							1029.5	1030.2	3				IIIG
			DURN				1029.7	1030.8	1						IV	
			WEIS							1034.0	1039.0	1			II	
			WEIS							1044.9	1045.0	2				IIIG
	1055	2204	SGMR										1055.0	2204.0	1	CONT
			WEIS							1115.2	1115.9	2				IIIG
			DURN							1115.4	1115.4	1				III
			DURN				1219.5	1219.7	1						IV	
			DURN				1257.4	1259.8	2	1259.4	1259.9	2				IIIGG
			WEIS							1258.4	1258.5	1				IIIB
			WEIS							1259.5	1300.5	3				IIIG
			DURN				1259.6	1302.4	1	1259.7	1301.7	1			IV	
	1300	2400	BOUL							1304	1900	2	1304	1900	2	IV
	1331	2400	HARV							1331 E	1446	1				I
			DURN				1402.1	1402.4	2							IIIG
			HARV							1420	1423	3	1421	1423	2	IIIGG
			WEIS							1420.3	1424.9	3				IIIGG
			BOUL							1420.5	1735.7	2	1420.5	1735.7	2	IIIN
			SGMR										1421.2	1423.3	3	IIIG
			WEIS							1440.0	1450.0	2			IV	
			HARV							1446	1447	2				IIIG
			HARV							1446	1557	2				IC
			WEIS							1446.0	1447.1	2				IIIG
			SGMR										1446.5	1449.2	3	IIIG
			HARV							1447	1454	3	1447	1448	3	UNCLF
			WEIS							1449.5	1453.0	2				IIIGG
			WEIS				1515.3	1515.5	1							IIIG
			HARV							1524	1525	2				IIIG
			WEIS							1524.5	1525.2	1				IIIG
	1532	1640	DURN													
			WEIS							1537.3	1537.4	2				IIIB
			HARV							1557	2100	1				I
			HARV										1604	1936	1	IN
			HARV				1652		2							IIIG
			HARV				1731	1733	3	1731	1733	3	1731	1733	3	IIIGG,V,U
			SGMR										1731.8	1736.2	3	IIIG
			HARV				1735	1737	3	1735	1736	3	1735	1736	3	IIIGG
			HARV							1738	1919	1	1738	1919	1	IIIN,RS,DP
			HARV				1823	1832	1							I
			HARV							1854	1855	2				IIIG
			BOUL							1900	2400	2	1900	2400	2	IV
			HARV							2100	2354	1				IN
	2147	2400	MANI													
12	0000	0931	MANI													
	0000	0030	BOUL										0000	0007	1	IV
	0000	0004	HARV													
	0557	1640	DURN							0557 E	1140	1				I,OC
	0626	1602	WEIS							0701.0	1550.0	1				IS
	1057	2202	SGMR										1055.0	2223.0	1	CONT
			WEIS							1129.4	1129.8	1				IIIG
			WEIS							1137.5	1205.5	2				IIIGG
			WEIS							1141.0	1153.0	2			IV	
			SGMR										1141.2	1148.1	3	IV
			DURN				1142.6	1154	3	1142.4	1154	3			IV	
			DURN							1203	1217	2			IV	
			WEIS							1205.0	1217.0	2				IIIGG
	1300	2400	BOUL							1305	2400	2	1305	2400	2	CONT
			SGMR										1314.4	1322.3	3	IV
			WEIS							1314.8	1323.8	2				IIIG
			DURN				1318.5	1318.5	2	1318.5	1318.5	2				III
	1331	2400	HARV							1415	2054	1				I
			HARV							1629	2018	1	1629	2018	1	IIIN
			HARV				1642	1710	1							IN
			HARV				1726	1733	2	1729	1733	3	1729	1733	3	IIIGG,V
			SGMR										1729.3	1733.3	3	IIIG
			HARV				2005	2006	1							IIIG
			HARV				2058	2059	2							IIIG
	2147	2400	MANI													
			HARV				2210	2212	1	2211	2212	3	2211	2212	1	IIIG
13	0000	0802	HARV													
	0808	0931	MANI													

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OCT 1974	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
13	0000	0030	BOUL										0000	0011	1	CONT
	0628	0917	WEIS													
	0557	1640	DURN				0901.9	0902.1	3							IIIG
			DURN							0934.1	0935.2	2				IIIG
			DURN							0934.6	0935.9	1				IV
	1058	2201	SGMR													
	1300	2400	BOUL													
	1331	2400	HARV				1528		1							I
			HARV				1940	1941	1							IIIGG
			HARV				2028	2029	1							IIIG
	2147	2400	MANI													
			HARV				2250	2315	1							IN
14	0000	0931	MANI													
	0000	0030	BOUL													
	1059	2159	SGMR													
	0558	1640	DURN							1138.8	1140.0	2				IIIG
	0800	1554	WEIS							1238.1	1239.0	2				IIIG
			WEIS							1239.0	1336.0	1				IN
	1331	2400	HARV				1622	1626	2							I
	1749	2400	BOUL							1900	1950	1				IS
	2147	2400	MANI													
			HARV							2251	2337	1				I
15	0000	0929	MANI													
	0000	0030	BOUL													
	0558	1235	DURN													
	0630	1553	WEIS													
	1100	2157	SGMR													
	1300	2000	BOUL													
	1332	2358	HARV													
	1445	1616	DURN													
	2147	2400	MANI													
16	0000	0927	MANI													
	0620	1615	DURN													
	0630	0935	WEIS													
	1000	1555	WEIS													
	1101	2156	SGMR													
	1331	2357	HARV				1843	1845	2							I
	2147	2400	MANI													
			HARV							2310	2311	2				IIIGG
	1300	2400	BOUL							2310.3	2311.4	2	2310.3	2311.4	2	IIIG
17	0000	0030	BOUL													
	0000	0925	MANI													
	0620	1615	DURN													
	0632	1550	WEIS							0750.2	0751.0	2				IIIG
			WEIS							0758.3	0758.9	1				IIIG
	1332	2355	HARV							1517	1519	3	1518	1519	2	IIIG
			WEIS							1517.5	1518.6	2				IIIG
	1300	2400	BOUL							1518.1	1518.8	2	1518.1	1518.8	2	III
	1102	2154	SGMR										1518.2	1518.8	2	III
			HARV							1650		3				IIIG
			HARV							1752	1753	2				IIIG
			SGMR										1752.8	1753.3	1	III
			HARV							1832		3				IIIG,U
			BOUL							1852.1	1854.5	1				IIIG
			HARV							1924	1925	2				IIIG
			HARV							2027		3				IIIG
			BOUL							2027.1	2027.3	2				III
			BOUL							2123.3	2123.5	2				III
	2147	2400	MANI													
18	0000	0923	MANI													
	0000	0030	BOUL													
	1104	2153	SGMR													
	1105	1544	WEIS													
	0632	1058	WEIS							1114.4	1115.8	1				IIIG
	0620	1615	DURN							1114.8	1116.7	2				IIIG
	1332	2353	HARV													
	1300	2400	BOUL							2019.3	2019.4	1	2019.3	2019.4	1	III
	2147	2400	MANI													
			BOUL							2214.9	2215.0	1	2214.9	2215.0	1	III
19	0000	0030	BOUL													
	0000	0920	MANI													
	0620	1614	DURN													
	0635	1547	WEIS													
	1105	2151	SGMR													
	1300	2200	BOUL													
	1331	2351	HARV													
	2147	2400	MANI													
20	0000	0920	MANI													
	0636	1240	WEIS							0643.0	0658.0	1				IS
			WEIS							0827.6	0828.2	2				IIIG
	0620	1615	DURN							0837.6	0837.8	2				IIIG
			WEIS							0933.9	0934.4	1				IIIG
	1106	2150	SGMR													

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OCT 1974	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: CENTIMETRIC BAND START UT	CENTIMETRIC BAND END UT	CENTIMETRIC BAND INT.	DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT.	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT.	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT.	SPECTRAL TYPE
20			WEIS							1159.0	1159.6	2				IIIG
			OURN							1159.0	1159.5	2				IIIG
	1300	2400	BOUL							2140.9	2141.7	2	2140.9	2141.7	2	III
	2148	2400	MANI													
	1332	2349	HARV							2311		2				U
21	0000	0920	MANI													
	0000	0030	BOUL													
	0620	1258	OURN													
	0655	1549	WEIS													
	1107	2148	SGMR													
	1331	2245	HARV													
	2148	2400	MANI													
	1300	2400	BOUL							2309.5	2340	1	2309.5	2340	1	CONT
22	0000	0030	BOUL													
	0000	0920	MANI													
	0644	1550	WEIS													
	1109	2146	SGMR													
	1312	1615	OURN													
	1331	2245	HARV													
	2148	2400	MANI													
	1300	2400	BOUL							2326.8	2327.1	1				III
23	0000	0030	BOUL													
	0000	0920	MANI													
	0620	1615	OURN													
	0640	0803	WEIS													
	0807	1536	WEIS													
	1110	2145	SGMR													
	1331	2251	HARV													
	1300	2400	BOUL							2124.6	2125.0	2	2124.6	2125.0	2	III
	2149	2400	MANI													
24	0000	0920	MANI													
	0000	0030	BOUL													
	0620	1615	OURN													
	0645	1538	WEIS							0811.4	0811.6	1				IIIB
	1111	2143	SGMR													
	1330	2400	BOUL													
	1331	2245	HARV													
	2149	2400	MANI													
25	0000	0919	MANI													
	0000	0030	BOUL													
	0620	1615	OURN													
	0645	1000	WEIS													
	1112	2142	SGMR													
	1330	2400	BOUL							1653.9	1710.0	1	1653.9	1710.0	1	CONT
	1332	2245	HARV							1700	1702	1				UNCLF
			BOUL										1703.1	1705.0	1	IIIG
			HARV							1704	1706	2	1704	1706	2	UNCLF
			BOUL							1716.1	1800.0	1	1716.1	1800.0	1	II
	2119	2400	MANI													
26	0000	0030	BOUL													
	0000	0918	MANI													
	0620	1615	OURN													
	0645	1534	WEIS													
	1113	2141	SGMR													
	1510	2245	HARV													
	1330	2300	BOUL							2026.7	2029.3	1	2026.7	2029.3	1	IIIG
	2140	2400	MANI													
27	0000	0918	MANI													
	0619	1615	OURN													
	0646	1229	WEIS													
	1115	2139	SGMR													
	1330	2400	BOUL													
	1334	2343	HARV													
	2150	2400	MANI													
28	0000	0915	MANI													
	0620	1615	OURN													
	0705	1525	WEIS													
	1116	2138	SGMR													
	1330	2342	HARV													
	1330	2400	BOUL							1401.4	1401.7	1	1491.4	1401.7	1	III
	2150	2400	MANI													
29	0000	0913	MANI													
	0650	1520	WEIS													
	0827	1350	OURN													
	1116	2136	SGMR													
	1330	2400	BOUL													
	1331	2341	HARV													
	1539	1616	OURN													
	2150	2400	MANI													
30	0000	0913	MANI													

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

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OCT 1974	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
30	0620	1615	OURN													
	0650	0954	WEIS													
	1036	1524	WEIS													
	1119	2135	SGMR													
	1330	2400	BOUL													
	1331	2340	HARV													
	2150	2400	MANI													
31	0000	0913	MANI													
	0620	1615	OURN													
	0655	1517	WEIS													
	1120	2133	SGMR													
	1330	2340	HARV							1546.2	1551	2	1548	1550	1	II
	1330	2400	BOUL							1546.4	1552.5	3	1546.4	1552.5	3	IIIG
			BOUL							1552.6	1616.4	3	1552.6	1616.4	3	IV
			HARV							1554	1625	2	1555	1624	2	II
			BOUL							1617.8	1625.0	2	1617.8	1625.0	2	II
			BOUL							1621.9	1632.0	2	1621.9	1632.0	2	II
	2151	2400	MANI													

The symbols used in connection with the spectral type in describing the important bursts are as follows:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of bursts
C = Underlying continuum (particularly with type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III
RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity

Note: Commencing 1974 April 1, the frequency range of the spectral equipment at the Harvard Radio Astronomy Station, Fort Davis, Texas was reduced to 25-320 MHz for the sunspot minimum. The frequency range was temporarily increased to 25-2000 MHz for the period 1974 October 11 1638 UT to October 20 2349 UT.

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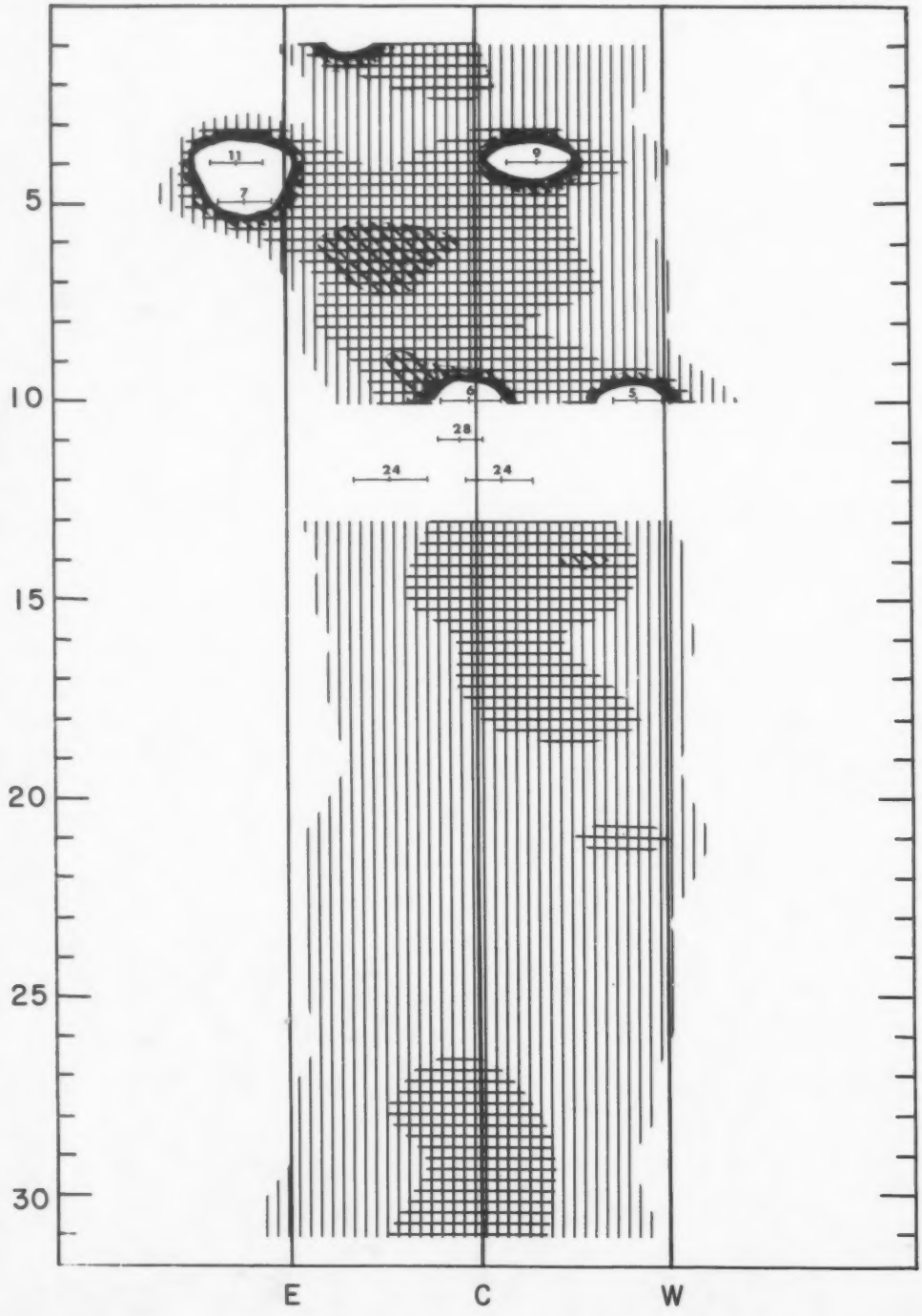
Oct 74

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

OCTOBER 1974

Nançay 169 MHz



COSMIC RAY INDICES

(Neutron Monitors)

OCTOBER 1974

OCT 1974	THULE Average cts/hr	ALERT Average cts/hr	DEEP RIVER Average cts/hr	CALGARY Average cts/hr	SULPHUR MT Average cts/hr	KIEL Average cts/hr	TOKYO Average cts/hr
1	4422.9	7201.1	6792.1	11571.5	8589.4	6144.5	3495.1
2	4389.8	7174.9	6789.8	11521.0	8571.9	6144.7	3496.4
3	4376.8	7186.6	6792.5	11590.2	8568.5	6147.1	3499.6
4	4391.3	7198.5	6780.3	11599.0	8613.8	6156.1	3506.0
5	4375.3	7167.5	6737.6	11559.2	8535.8	6126.7	3504.6
6	4363.8	7137.4	6674.8	11431.3	8459.7	6093.0	3492.9
7	4348.1	7090.8	6703.9	11435.4	8465.7	6091.5	3496.7
8	4358.9	7126.0	6708.2	11441.9	8474.1	6092.0	3492.2
9	4349.3	7115.3	6708.8	11405.7	8456.0	6090.4	3506.5
10	4329.0	7087.6	6658.4	11336.0(16)	8392.8(16)	6041.2	3498.8
11	4335.5	7106.6	6686.7	11497.2(8)	-- (0)	6073.0	3499.8
12	4343.3	7133.2	6699.5	11454.0	-- (0)	6079.0	3494.6
13	4293.5	7061.9	6635.2	11335.4	8460.3(4)	6048.9	3511.4
14	4317.5	7088.8	6672.3	11421.8	8432.0	6080.0	3510.1
15	4271.9	7026.8	6580.6	11205.4	8269.3	5994.5	3493.5
16	4288.8	7051.2	6626.3	11250.6	8297.3	6053.2	3495.5
17	4314.6	7082.9	6673.1	11399.8	8422.6	6071.0	3496.2
18	4363.0	7153.6	6753.7	11504.5	8508.6	6109.9	3492.0
19	4383.3	7185.0	6793.4	11569.9	8583.6	6155.6	3492.1
20	4359.1	7139.6	6756.2	11500.9	8566.8	6141.1	3483.5
21	4411.8	7236.5	6777.4	11567.8	8587.7	6158.9	3483.2
22	4428.8	7272.9	6779.3	11636.6	8623.6	6190.8	3501.2
23	4419.2	7254.6	6792.1	11628.5	8628.7	6154.4	3516.6
24	4375.9	7184.7	6734.8	11522.5	8522.0	6111.5	3499.0
25	4356.3	7163.9	6731.6	11534.7	8545.8	6118.0	3498.1
26	4387.8	7208.3	6772.8	11573.3	8598.8	6143.2	3499.8
27	4377.8	7186.8	6758.8	11538.3	8578.6	6152.4	3489.0
28	4367.7	7171.4	6739.3	11508.0	8569.4	6150.5	3502.2
29	4371.5	7173.2	6715.7	11504.4	8560.6	6126.2	3496.3
30	4369.5	7166.2	6711.6	11524.8	8557.9	6121.7	3493.5
31	4382.4	7162.8	6721.0	11562.0	8597.2	6142.5	3504.2
MEAN	4362.1	7151.5	6724.4	11488.1	8518.6	6113.0	3498.1

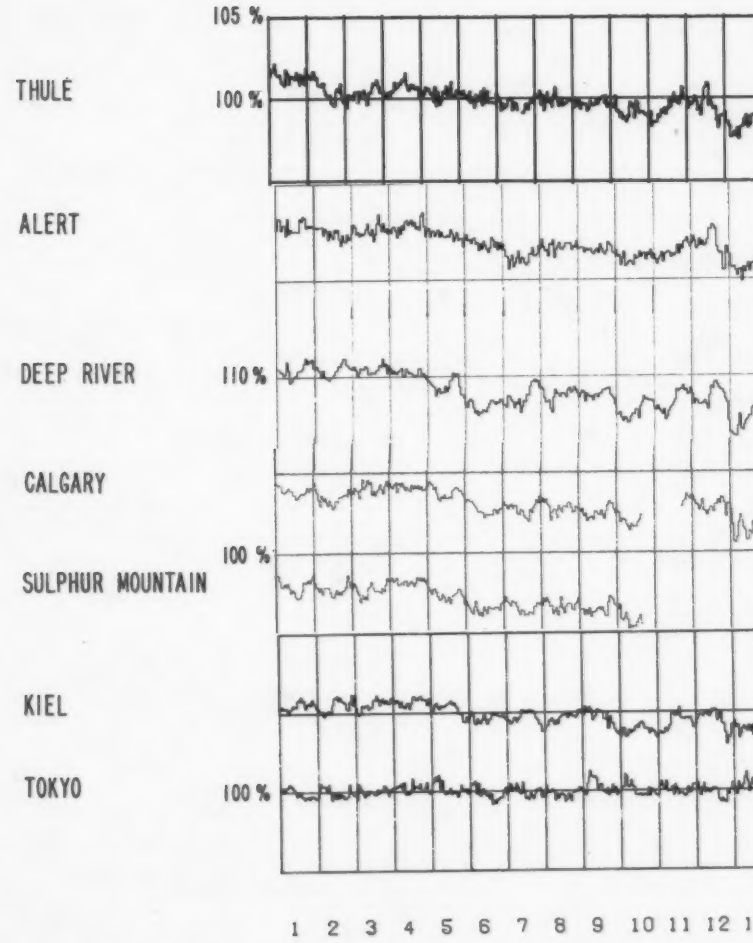
( ) Number of hours for which data are available if less than 24.

Thule, Alert, Calgary, Sulphur Mountain and Kiel Scaling Factors = 100.
Deep River Scaling Factor = 300.
Tokyo " " = 128.

See *Descriptive Text* for other characteristics.

CO

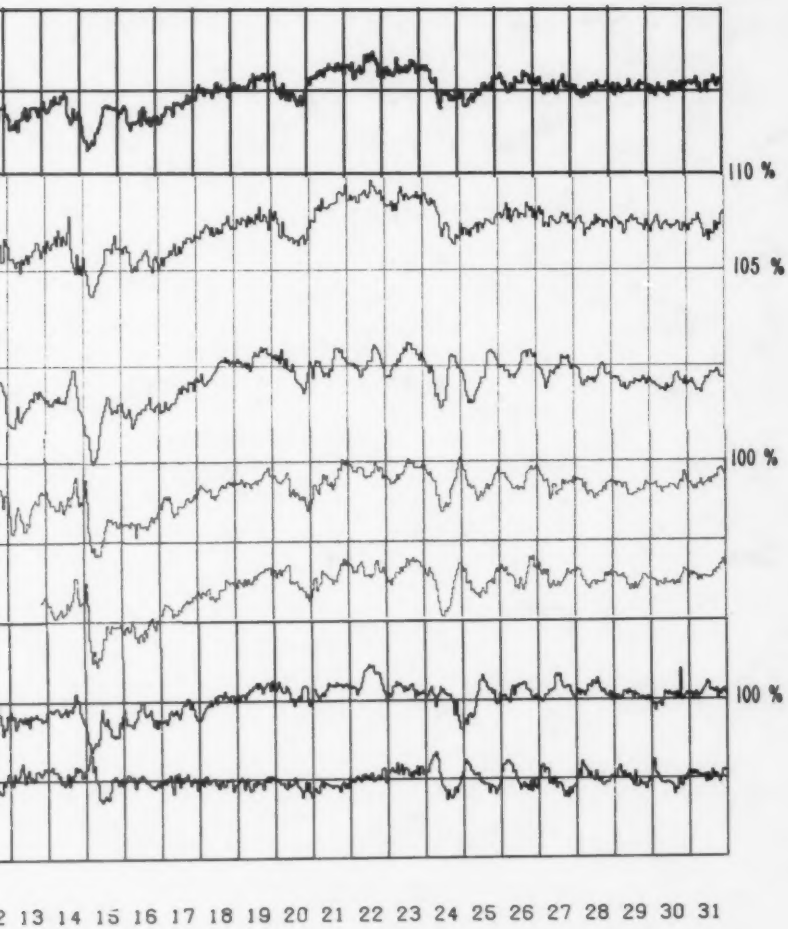
(Pressure


105 %
100 %
THULE
ALERT
DEEP RIVER
110 %
CALGARY
100 %
SULPHUR MOUNTAIN
KIEL
TOKYO
100 %
1 2 3 4 5 6 7 8 9 10 11 12

COSMIC RAY INDICES

ure Corrected Hourly Totals)

OCTOBER 1974



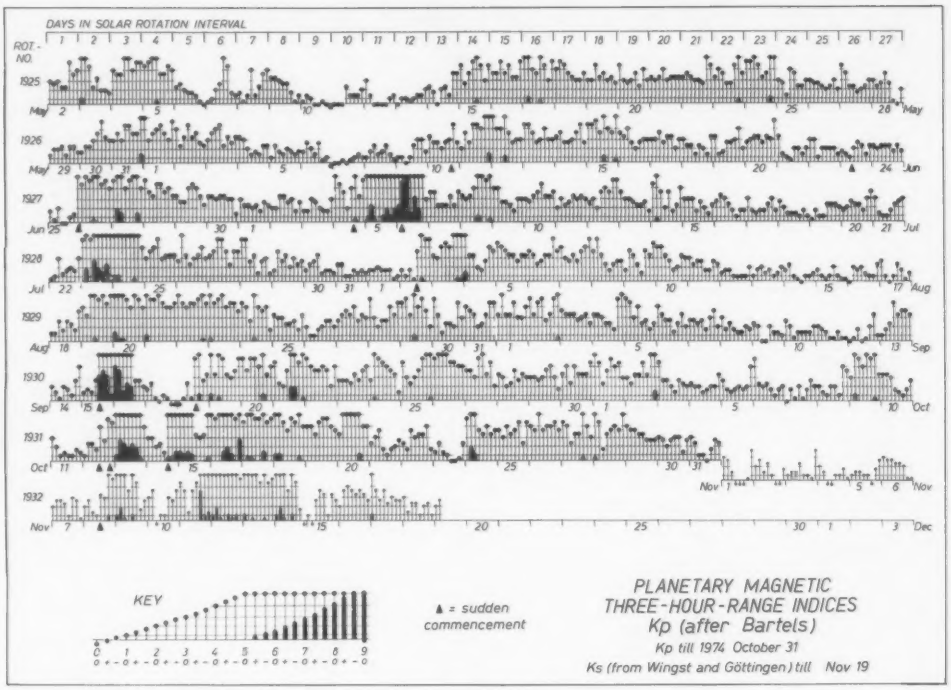
2 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

GEOMAGNETIC ACTIVITY INDICES

OCTOBER 1974

Day	Three-Hour Range Indices Kp									Prel Ci	Cp	Ap	aa			
	1	2	3	4	5	6	7	8	Sum				N	S	M	
1	5	4+	2+	4-	5-	4	4+	3	31+	1.2	1.2	28	43	46	44 45	
2	3	2+	3+	3+	4+	3+	5	6	31-	1.2	1.3	30	52	49	26 76	
3	4+	3-	3-	2	1+	3-	2+	2	20	0.6	0.7	12	24	20	23 21	
4QQ	2+	2	2	1+	2-	2	2	3+	17-	0.5	0.4	8	18	15	13 20	
5 Q	3-	2-	1+	2-	2	2-	2	4	17	0.4	0.5	10	20	14	12 23	
6 Q	5-	2+	2	2+	2-	1	2-	2	18-	0.6	0.6	11	20	21	25 17	
7QQ	0+	2-	1-	2	1-	2-	3-	2	12-	0.2	0.3	6	12	12	11 12	C
8 Q	2	1+	1	2	2	1	4	4-	17	0.7	0.6	10	22	25	15 31	
9	3	6-	5-	4	5	5-	5+	3+	36-	1.4	1.4	39	52	61	45 68	
10 Q	3+	3+	3	2-	1+	1	2-	3-	18	0.5	0.6	10	18	18	23 14	
11QQ	3	2	1	1+	1	1	2-	1+	12+	0.2	0.3	6	13	12	16 9	KK
12	1	2+	2+	2-	4	3-	5-	4+	23	0.9	0.9	17	29	31	14 46	
13 D	6-	7	7-	6+	7-	6+	5+	4	48	1.9	1.8	86	82	93	108 67	
14	3	3	2	2+	1+	5+	5+	6	28+	1.2	1.3	30	39	33	19 54	
15 D	6	6-	6	6-	3+	3	3+	5+	38+	1.4	1.6	50	57	50	69 39	
16 D	5	5-	5	6	6+	6-	5-	7	44+	1.8	1.7	68	79	83	63 99	
17 D	4+	5+	5+	5-	5-	6	4+	5-	39+	1.6	1.5	47	65	79	68 77	
18 D	6-	6-	4+	4-	5-	4+	5+	4	38-	1.4	1.5	43	52	50	50 53	
19	4	4	3+	4+	5-	5-	4	4-	33-	1.2	1.3	29	52	43	41 54	
20	3+	5	5	5	5	6-	4	4	37	1.5	1.5	41	62	52	57 58	
21 Q	2+	3	4-	2-	1	2-	2	3-	18	0.4	0.6	10	20	18	23 16	
22	2+	2-	4-	3	3+	3+	4	2-	23	0.8	0.9	15	23	26	20 30	
23QQ	1+	2+	1+	1	0+	0+	1-	2+	10-	0.2	0.2	5	10	9	10 10	C
24	5-	6+	6-	4-	3+	4	3+	4-	35-	1.4	1.4	38	47	74	83 39	
25	4-	3	4	3+	4-	4+	2+	4+	29-	1.1	1.1	22	41	37	35 43	
26	4	4-	5	4-	4	4	4+	4-	32+	1.2	1.2	28	43	47	42 48	
27	4+	4	2+	3+	3+	5+	4	3	30-	1.2	1.2	25	40	39	32 47	
28	5+	4+	2-	3+	4-	4	4-	5	31	1.2	1.3	29	43	41	28 56	
29	4	4-	4-	3+	3+	3-	3-	3-	26	0.8	1.0	18	31	30	36 26	
30	3	3-	2	3-	3	3	1+	3-	20+	0.5	0.7	12	21	16	17 21	
31QQ	3	2+	1	1	0+	2-	3-	2+	14+	0.3	0.4	8	14	12	13 14	K
									MEAN	0.95	1.00	26	37.0	37.4	37.2	

GEOMAGNETIC ACTIVITY INDICES



DAILY AVERAGE INDICES Ap

	1973		1974									
DAY	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	4	4	17	13	20	17	9	28	18	6	24	28
2	7	2	9	12	18	15	18	18	12	22	32	30
3	5	5	11	8	20	39	24	19	9	35	16	12
4	18	29	13	7	10	35	34	9	31	24	20	8
5	14	17	14	8	18	18	35	6	74	21	19	10
6	9	10	12	7	20	26	6	6	130	20	14	11
7	28	8	2	10	13	18	15	3	15	22	12	6
8	11	7	10	5	17	13	13	6	36	16	7	18
9	12	21	7	4	33	16	11	7	15	16	5	39
10	8	8	14	14	30	28	3	15	20	16	6	10
11	6	8	6	30	32	19	5	32	14	10	4	6
12	4	4	5	40	15	3	5	29	23	5	6	17
13	10	4	5	20	10	7	4	21	12	6	16	86
14	8	6	8	12	16	5	10	18	23	5	9	30
15	8	8	15	4	3	4	30	37	10	4	73	50
16	10	4	15	7	42	4	26	16	10	6	88	68
17	17	6	16	11	9	6	38	15	8	6	3	47
18	19	3	24	1	3	48	24	10	6	10	19	43
19	4	13	9	4	2	39	18	13	6	40	34	29
20	6	29	14	12	23	46	18	18	11	46	35	41
21	23	34	16	23	68	35	18	7	9	39	43	10
22	7	25	5	14	39	31	22	8	8	37	24	15
23	8	18	4	44	42	29	25	7	82	36	16	5
24	26	4	4	29	34	19	39	8	51	26	26	38
25	42	3	50	34	28	20	14	10	22	13	30	22
26	18	4	38	28	20	21	11	40	20	7	38	28
27	14	6	34	26	22	19	14	54	24	18	25	25
28	6	11	18	27	18	23	10	26	18	20	14	29
29	5	19	22		34	19	7	19	13	31	16	18
30	4	15	21		20	16	17	15	8	17	21	12
31		17	19		24		30		6	21		8
MEAN	12	11	15	16	23	21	18	17	24	19	23	26

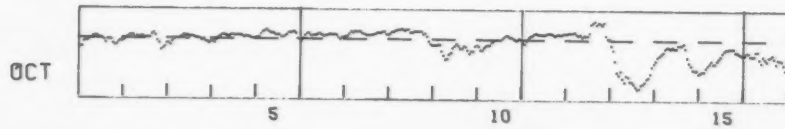
HOURLY EQUATORIAL Dst

NASA/GODDARD SPACE FLIGHT CENTER

OCTOBE

(Time-UT)

DAY	1	2	3	4	5	6	7	8	9	10	11	12
1	-19	-19	-8	-6	-7	-3	-1	3	4	3	1	-1
2	-4	-1	2	6	6	5	-2	4	1	4	3	1
3	-10	-14	-7	-3	0	-1	1	3	7	6	5	4
4	-7	-9	-3	2	5	8	9	7	4	6	8	8
5	3	4	10	15	17	20	17	14	12	11	9	9
6	-5	1	7	11	12	7	6	8	8	11	11	8
7	6	7	11	16	14	17	15	17	15	12	10	8
8	11	15	16	18	20	21	21	21	18	21	21	14
9	-13	-14	-12	-12	-26	-36	-44	-42	-33	-30	-19	-15
10	-15	-24	-23	-18	-14	-13	-12	-7	-4	-1	-1	-2
11	-8	-10	-3	4	7	9	12	14	11	10	10	10
12	13	15	14	15	17	12	9	11	6	9	9	8
13	-12	-23	-45	-69	-75	-67	-82	-90	-77	-79	-89	-90
14	-45	-37	-33	-30	-26	-18	-15	-15	-18	-15	-13	-17
15	-69	-66	-67	-59	-54	-50	-45	-50	-49	-44	-39	-34
16	-31	-27	-28	-33	-34	-33	-23	-23	-40	-48	-35	-40
17	-51	-46	-44	-44	-43	-40	-45	-38	-45	-46	-37	-32
18	-34	-43	-40	-41	-34	-32	-35	-32	-38	-33	-25	-28
19	-28	-28	-28	-26	-22	-22	-21	-16	-18	-19	-20	-17
20	-24	-25	-21	-15	-7	-14	-13	-16	-25	-24	-21	-31
21	-26	-24	-21	-19	-17	-16	-15	-11	-11	-11	-9	-14
22	-17	-12	-11	-8	-7	-6	-4	-9	-13	-14	-9	-2
23	-10	-10	-9	-7	-11	-8	-3	-3	-6	-3	0	3
24	46	44	22	0	-22	-37	-40	-43	-28	-18	-13	-17
25	-10	-11	-5	0	6	0	-3	-2	-3	1	2	3
26	-18	-12	-11	-12	-12	-8	-6	-2	-5	-6	-2	4
27	-6	-12	-11	-3	1	4	8	10	8	11	11	16
28	-8	-11	-10	-14	-12	-8	-3	-3	-7	-5	-4	-2
29	-11	-12	-10	-7	-3	1	-1	-1	-10	-11	-4	1
30	7	6	4	8	12	12	8	6	4	3	4	3
31	0	4	5	8	9	12	10	10	6	7	8	9



DST VALUES (PROVISIONAL)

OBER 1974

12	13	14	15	16	17	18	19	20	21	22	23	24
-1	-2	-4	-10	-3	-2	-4	-12	-15	-14	-9	-6	-7
1	1	1	0	8	11	6	-5	-11	-25	-22	-19	-11
4	3	3	2	0	0	-1	-4	-1	-6	-8	-11	-7
8	7	7	8	7	6	3	5	4	3	1	0	1
9	9	4	4	6	9	13	14	15	16	12	0	-2
8	6	7	8	10	10	8	10	8	3	-1	3	4
8	7	9	8	10	11	14	14	13	16	16	10	8
14	14	16	17	17	17	15	10	12	5	-6	-11	-14
-15	-10	-14	-20	-20	-15	-17	-24	-31	-26	-27	-15	-13
-2	-1	2	6	9	7	4	3	1	-2	-1	2	-1
10	10	13	14	13	11	8	10	12	10	10	13	14
8	15	34	37	40	33	37	35	32	38	9	2	2
-90	-94	-100	-105	-103	-96	-94	-90	-83	-80	-72	-57	-50
-17	-11	-11	-10	-7	-18	-38	-49	-54	-63	-65	-64	-72
-34	-27	-22	-19	-19	-17	-18	-18	-25	-26	-29	-31	-34
-40	-44	-36	-34	-31	-38	-50	-41	-43	-44	-52	-64	-57
-32	-30	-26	-27	-28	-37	-34	-30	-36	-40	-34	-30	-29
-28	-29	-31	-35	-27	-28	-30	-28	-26	-31	-28	-23	-24
-17	-19	-15	-13	-14	-15	-23	-23	-26	-32	-31	-21	-17
-31	-41	-49	-51	-55	-54	-52	-43	-41	-38	-39	-35	-31
-14	-15	-7	-8	-7	-7	-9	-12	-12	-18	-18	-17	-20
-2	-2	9	6	6	14	20	5	-8	-10	-14	-10	-10
3	5	6	7	6	2	3	3	5	8	19	33	38
-17	-9	-13	-17	-14	-12	-10	-4	-1	-15	-13	-7	-6
3	2	6	9	5	3	3	5	4	1	0	-6	-19
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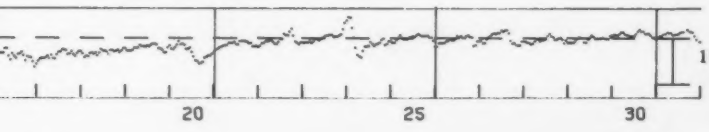
16	14	17	17	10	-6	-12	-11	-16	-17	-16	-8	-7
-2	4	8	3	1	-4	-4	-1	0	-4	-12	-6	-11
1	5	2	-2	-1	-2	-2	0	-2	-3	-3	3	6
3	8	14	18	14	13	9	9	8	5	1	-1	-3
9	11	13	14	15	18	14	13	11	3	-4	-8	-9



115
Oct 74

PRINCIPAL MAGNETIC STORMS

OCTOBER 1974

OBS. 2 letter IAGA code	GEOMAG-NETIC LATI-TUDE	COMMENCEMENT DAY	COMMENCEMENT hr min (UT)	TYPE	SC - AMPLITUDES D(')	SC - AMPLITUDES H(γ)	SC - AMPLITUDES Z(γ)	MAXIMUM 3 HOUR - INDEX K DAY(3 HOUR PERIOD)	K	RANGES D(')	RANGES H(γ)	RANGES Z(γ)	UT END DAY	UT END HOUR
PM	18.7S	1	13--	..	..	..	..	02(5)	5	4	60	40	03	09
NE	55.1N	2	0415	..	..	..	..	02(5,8) 03(1)	5	22	135	83	03	08
CO	64.6N	8	0913	SC*	- 7	+16	--		-	--	--	--		
SI	60.0N	8	08--	..	..	..	..	09(5)	7	90	1010	410	09	22
NE	55.1N	8	19--	..	..	..	..	09(5)	5	33	108	256	10	09
WI	54.2N	8	18--	..	..	..	..	09(7)	6	33	145	75	09	23
HY	7.6N	8	0950	..	..	..	..	09(5,6,7)	5	3	138	20	10	01
AP	16.0S	8	18--	..	..	..	..	09(2,5)	5	6	129	27	11	--
HR	33.7S	8	18--	..	..	..	..	09(5,7)	5	26	111	75	10	01
CO	64.6N	9	01--	..	..	..	..	09(5)	7	185	1660	970	09	22
GU	4.0N	9	0108	..	..	..	..	09(2)	5	10	120	20	10	08
HU	0.6S	9	0237	..	..	..	..	09(6)	6	9	318	58	09	22
PM	18.7S	9	03--	..	..	..	..	09(2,4)	5	6	130	50	10	09
GN	43.3S	9	03--	..	..	..	..	09(7)	6	26	90	130	09	22
TO	46.7S	9	03--	..	..	..	..	09(5,6,7)	5	29	130	80	10	09
EB	43.9N	12	1244	SC*	- 2.1*	+22 *	+ 9 *	13(2)	6	20	197	88	14	04
CO	64.6N	12	1244	SC*	- 9	+55	-20	13(3,5)	8	596	2420	1990	13	23
SI	60.0N	12	1245	SC*	- 5.2	+25	+ 9	13(5)	9	260	1750	1250	13	23
NE	55.1N	12	1244	SC*	3	18	..	13(2,3,5)	7	99	427	473	13	22
WI	54.2N	12	1244	SC*	- 3 *	+60 *	- 2	13(6,7)	6	35	230	190	14	01
FR	49.6N	12	1244	SC*	+ 7	-19	- 2	16(8)	6	38	199	138	21	01
BO	48.9N	12	1245	SC	+ 1	+10	- 2	13(2)	6	45	185	130	14	06
TU	40.4N	12	1244	SC	+ 1	+ 8	+ 1	13(1,2,4,5) 14(6) 15(2) 16(4,5) 17(6)	6	29	180	40	21	09
SJ	29.9N	12	1243	SC	- 0.5	+ 8	+ 3	13(2)	6	8	169	34	13	06
HO	21.1N	12	1244	SC	+ 0	+17	+ 5	13(1)	5	10	195	43	13	21
HO	21.1N	12	2016	SC*	+ 1	+20	+ 9	13(1)	5	10	195	43	13	21
AL	9.5N	12	1244	SC	- 0.6	26	- 5	12(7) 13(1,2,5,6)	5	5	210	43	13	21
HY	7.6N	12	1244	SC	- 0.5	+28	- 1	13(6)	6	6	258	29	14	06
HY	7.6N	12	2015	SI	- 0.2	+18	- 1		-	--	--	--		
GU	4.0N	12	2014	SC*	--	+18	- 6	13(1)	6	10	200	40	20	03
GU	4.0N	12	1244	SC	--	+22	- 6	12(5)	4	0	30	10	12	20
AN	1.5N	12	1244	SC	- 1.1	32	20	--	-	3	238	74	13	21
HU	0.6S	12	1244	SC*	3	98	5	13(6)	6	8	348	37	13	22
TV	1.1S	12	1244	SC	0.1	26	32	--	-	3	235	139	13	21
AP	16.0S	12	1245	SC	0	+18	- 6	13(6)	6	7	219	35	21	02
PM	18.7S	12	1244	SC	+ 0.5	+26	+22	16(4)	6	6	200	20	21	08
HR	33.7S	12	2015	SC	+ 2	+29	+ 9	13(6)	6	27	203	110	13	23
GN	43.3S	12	1244	SC*	+ 2	+27 *	+12	13(3,4,5,6)	6	21	178	124	14	04
TO	46.7S	12	1245	SC*	- 0.9*	36	6	13(3)	7	30	190	120	13	22
KG	56.5S	12	1244	SC	--	--	--	13(5,6)	8	--	--	--	13	23
EB	43.9N	14	1633	SC	- 0.2	+ 3	+	17(6)	6	22	143	90	21	01
CO	64.6N	14	14--	..	..	..	..	14(6,7) 15(3,4) 16(4,5) 17(5,6) 18(5) 19(4) 20(3,4,5,6)	7	616	1990	1430	21	02
SI	60.0N	14	16--	..	..	..	..	16(4)	9	190	1550	1110	20	20
NE	55.1N	14	1429	..	..	..	..	16(4)	7	67	323	530	21	01
WI	54.2N	14	1634	SC*	- 2	+11 *	0	16(8)	7	43	260	150	20	24
BO	48.9N	14	1634	SC	- 1	+ 7	--	15(2)	6	48	180	150	21	02
SJ	29.9N	14	1633	SC	--	+ 4	--	14(6)	5	11	117	30	21	02
HO	21.1N	14	1634	SC*	+ 0	+ 4	+ 2	16(4)	5	8	99	39	--	--
HY	7.6N	14	1500	..	..	..	..	14(6,7,8)	5	5	87	33	16	01
HU	0.6S	14	1522	..	..	..	..	16(5,6)	6	12	360	49	20	24
HR	33.7S	14	1634	SC	+ 1	+ 3	- 2	14(6,7,8) 15(2) 16(5,6,8) 17(6,8) 18(7) 19(8) 20(4,6)	5	39	121	109	21	00
GN	43.3S	14	15--	..	..	..	..	16(4,5) 17(4) 20(6)	6	18	100	110	20	20
KG	56.5S	14	1635	SC	--	--	--	14(8) 16(5,8)	7	--	--	--	19	02
HY	7.6N	16	0530	..	..	..	..	16(5)	6	7	152	26	18	05
TO	46.7S	16	04--	..	..	..	..	16(4,5)	6	28	190	70	20	00
AL	9.5N	20	0345	SC	- 0.6	17	- 6	20(4,5,6)	5	4	141	21	20	20
HY	7.6N	20	0344	SC	- 0.4	+21	- 2	20(4,5,6)	5	3	148	14	21	00
GU	4.0N	20	0345	SI	--	+20	- 6		-	--	--	--		
AN	1.5N	20	0345	SC	- 1.0	38	13	--	-	3	170	50	20	20
TV	1.1S	20	0345	SC	--	40	43	--	-	3	182	120	20	20
PM	18.7S	20	0344	SC	+ 0.7	+21	+20	20(4)	5	5	100	50	20	18
KG	56.5S	20	0345	SC	--	--	--	20(6)	7	--	--	--	20	23
CO	64.6N	22	07--	..	..	..	..	22(4,5)	6	111	840	620	22	21
HU	0.6S	22	1257	SC	1	38	2	22(6)	6	7	236	33	22	22
CO	64.6N	23	18--	..	..	..	..	24(3)	7	169	1210	840	29	16
FR	49.6N	23	19--	..	..	..	..	24(2)	6	23	129	52	29	11
EB	43.9N	23	0849	..	..	..	..	24(2)	5	12	101	56	26	18
TU	40.4N	23	21--	..	..	..	..	24(1,2)	6	16	140	30	29	17
HO	21.1N	23	18--	..	..	..	..	24(3)	6	5	166	21	24	--
AL	9.5N	23	1848	..	..	..	..	24(2)	6	3	103	29	24	21
HY	7.6N	23	1845	..	..	..	..	24(2)	6	3	107	23	24	22
AN	1.5N	23	1848	..	..	..	..	--	-	3	148	67	24	21
TV	1.1S	23	1848	..	..	..	..	--	-	2	169	152	24	21

PRINCIPAL MAGNETIC STORMS

OCTOBER 1974

OBS. 2 letter IAGA code	GEOMAG-NETIC LATI-TUDE	COMMENCEMENT DAY	hr min (UT)	TYPE	SC - AMPLITUDES D(')	H(γ)	Z(γ)	MAXIMUM 3 HOUR - INDEX K DAY(3 HOUR PERIOD)	K	RANGES D(')	H(γ)	Z(γ)	UT END DAY	HOUR
AP	16.0S	23	1848	..	..	..	..	24(2)	6	7	195	30	30	07
PM	18.7S	23	1850	SC	+ 0.1	+ 3	+ 2	24(2,3)	5	7	200	70	29	18
HR	33.7S	23	21--	..	..	..	..	24(1,2) 26(1) 27(6) 28(1,8)	5	24	104	96	29	02
GN	43.3S	23	19--	..	..	..	..	24(1,2,3)	5	6	130	90	24	21
TO	46.7S	23	19--	..	..	..	..	24(2,3)	6	24	160	60	25	00
KG	56.5S	23	22--	..	..	..	..	24(1)	6	--	--	--	28	23
SI	60.0N	24	00--	..	..	..	..	24(3)	7	90	750	470	29	16
NE	55.1N	24	0006	..	..	..	..	24(2,3)	6	43	175	275	29	23
WI	54.2N	24	00--	..	..	..	..	27(6) 28(8)	6	30	170	75	29	06
BO	48.9N	24	00--	..	..	..	..	24(2)	6	32	125	65	30	17
GU	4.0N	24	0009	..	..	..	..	24(2)	6	10	200	30	29	15
HU	0.6S	24	0000	..	..	..	..	24(5,6)	5	7	222	47	26	21
HU	0.6S	27	1103	..	..	..	..	27(6)	5	6	220	28	28	24

Reports were received from the following observatories:

College, Sitka, Newport, Witteveen, Fredericksburg, Boulder, Ebro, Tucson, San Juan, Honolulu, Alibag, Hyderabad, Guam, Annamalainagar, Huancayo, Trivandrum, Apia, Port Moresby, Hermanus, Gnangara, Toolangi, Port-aux-Francais

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

OCTOBER 1974

PRELIMINARY REPORT ON RAPID MAGNETIC VARIATIONS (by Dr. A. Romana)

The meaning of the station symbols is given in the IAGA-Bulletins nr. 12 and 32. Times of ssc and si are mean values. If given by ten or more stations they are underlined.

Sudden commencements followed by a magnetic storm or a period of storminess (ssc)

12 1244 A: SO DO NU SI ES WN VI LG IK EB CI TL AE KS SZ HU LM; B: WI NI FU KA SS PM PP GN (si: A: OT)

14 1634 B: WN WI FU LG IK CI TL LM; C: NI VI EB AE PP (si: B: ES)

20 0346 A: LM; B: WN FU IK CI SZ PM PP; C: NI SS (si: A: LG; B: TL? AE HU; C: WI EB)

Sudden impulses found in the magnetograms (si)

n o n e

Solar-flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

05 1306 - 1314 SZ

11 0327 - 0420 KA SS PM

11 1123 - 1136 TL SZ

11 1438 - 1458 HU

11 1731 - 1740 HU

12 1145 - 1202 SZ

15 1325 - 1334 EB

16 1301 - 1310 EB HU

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

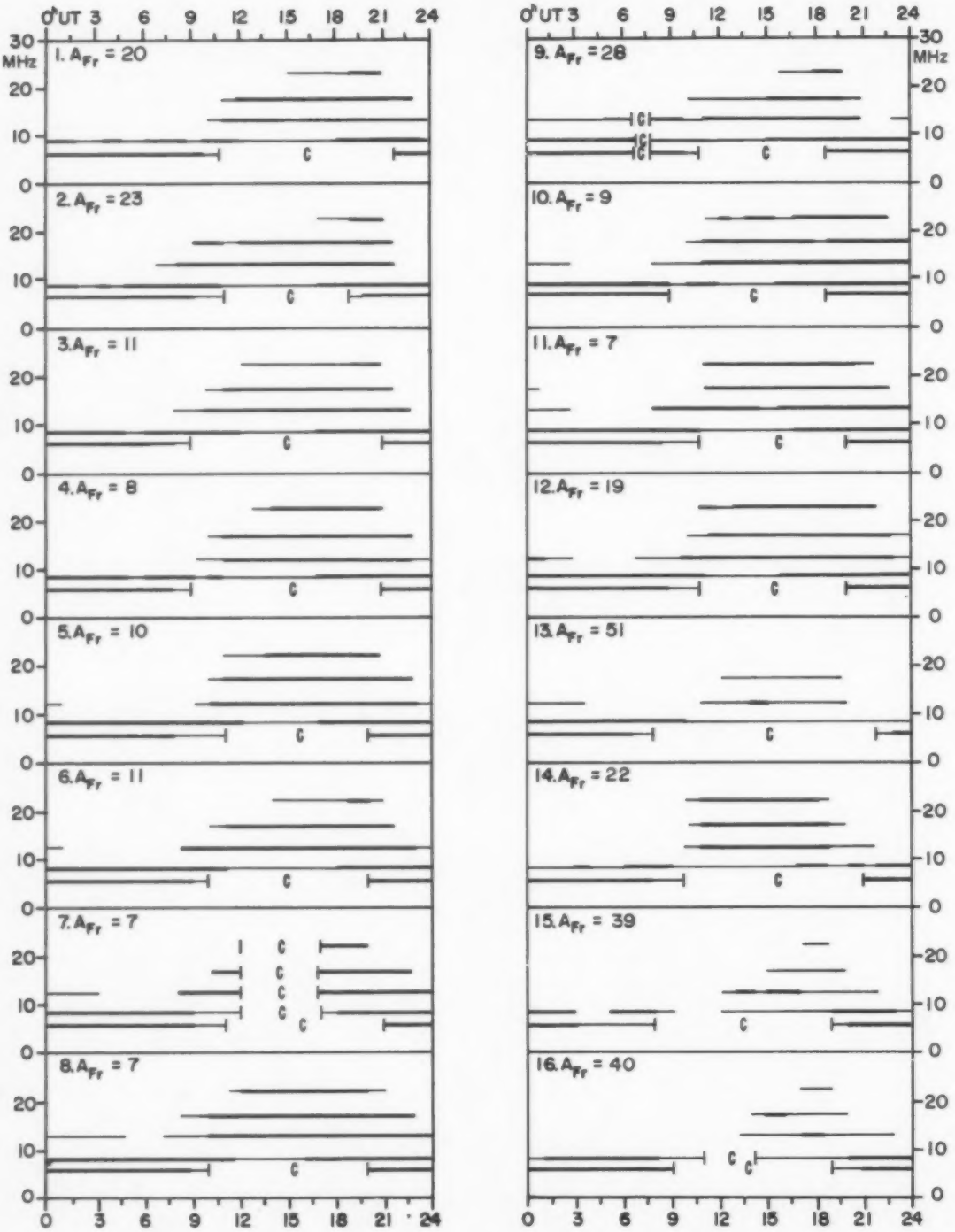
North Atlantic

OCTOBER 1974

OCT 1974	WHOLE DAY INDICES NORTH ATLANTIC	ADVANCE FORECASTS (JC-REPORTS) FOR WHOLE DAY	NORTH ATLANTIC								GEOMAGNETIC INDICES	
			6-HOURLY QUALITY FIGURES				SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF				K_{FR}	A_{FR}
			00 TO 06	06 TO 12	12 TO 18	18 TO 24	02	08	14	20	HALF DAY (1) (2)	OBSERVED
01	5o	5	6-	4+	5-	6o	6	6	6	6	3 (4)	20
02	5+	5	6-	4+	6-	6-	5	5	6	6	3 (4)	23
03	6-	5	5-	5-	7-	7-	5	5	5	6	3 2	11
04	6-	6	6o	4+	6-	6o	5	5	5	6	2 2	8
05	6+	6	6o	6o	7-	6+	6	6	6	6	2 2	10
06	6+	6	6-	6o	7o	6+	6	6	6	6	3 2	11
07	6+	6	6o	6o	7o	7-	6	6	6	7	2 2	7
08	6o	6	6o	6o	7-	6o	6	6	6	7	1 2	7
09	6o	6	6-	6-	7o	6+	6	6	6	5	(4) (4)	28
10	6o	5	6-	6-	7-	6+	5	5	6	6	3 2	9
11	6+	4	6o	6+	6o	7-	6	6	6	6	2 2	7
12	6+	4	6+	6+	6o	7-	6	6	6	6	2 (4)	19
13	4+	5	5o	4-	4o	5o	5	5	4	5	(6) (4)	51
14	5o	5	6-	5-	5+	5o	5	5	6	6	3 (4)	22
15	4+	5	5-	3+	4+	4+	5	4	5	5	(5) 3	39
16	4o	6	4o	4o	4-	5-	4	4	5	4	(5) (5)	40
17	4+	5	4+	3o	5-	5-	4	3	5	4	(5) (5)	39
18	4+	5	4o	3o	6-	4+	4	3	5	5	(5) (4)	32
19	5o	5	4o	5+	6o	5o	5	5	5	5	3 (4)	21
20	5-	5	4o	5+	5+	5-	5	5	4	4	(4) (4)	30
21	6-	5	5-	4+	6+	7-	5	5	5	6	2 2	8
22	6-	5	6-	5+	6o	6o	6	6	5	5	3 3	15
23	6o	5	6o	6-	6+	6o	6	5	5	6	2 1	5
24	5o	6	5o	5-	5o	5o	6	5	5	5	(5) 3	31
25	6-	6	5+	5o	6+	5+	5	4	5	6	3 3	17
26	5+	6	5o	6+	5+	5o	6	5	5	5	(4) (4)	23
27	6-	6	5o	6o	6-	5+	6	5	5	5	(4) 3	20
28	5+	5	5+	4o	6o	6-	5	5	5	5	3 (4)	23
29	5+	5	5+	6-	6-	5+	5	5	5	6	3 3	16
30	6-	5	6-	6o	6-	6-	5	5	6	6	3 2	10
31	6-	6	5+	6-	7-	5o	6	5	6	6	2 2	6

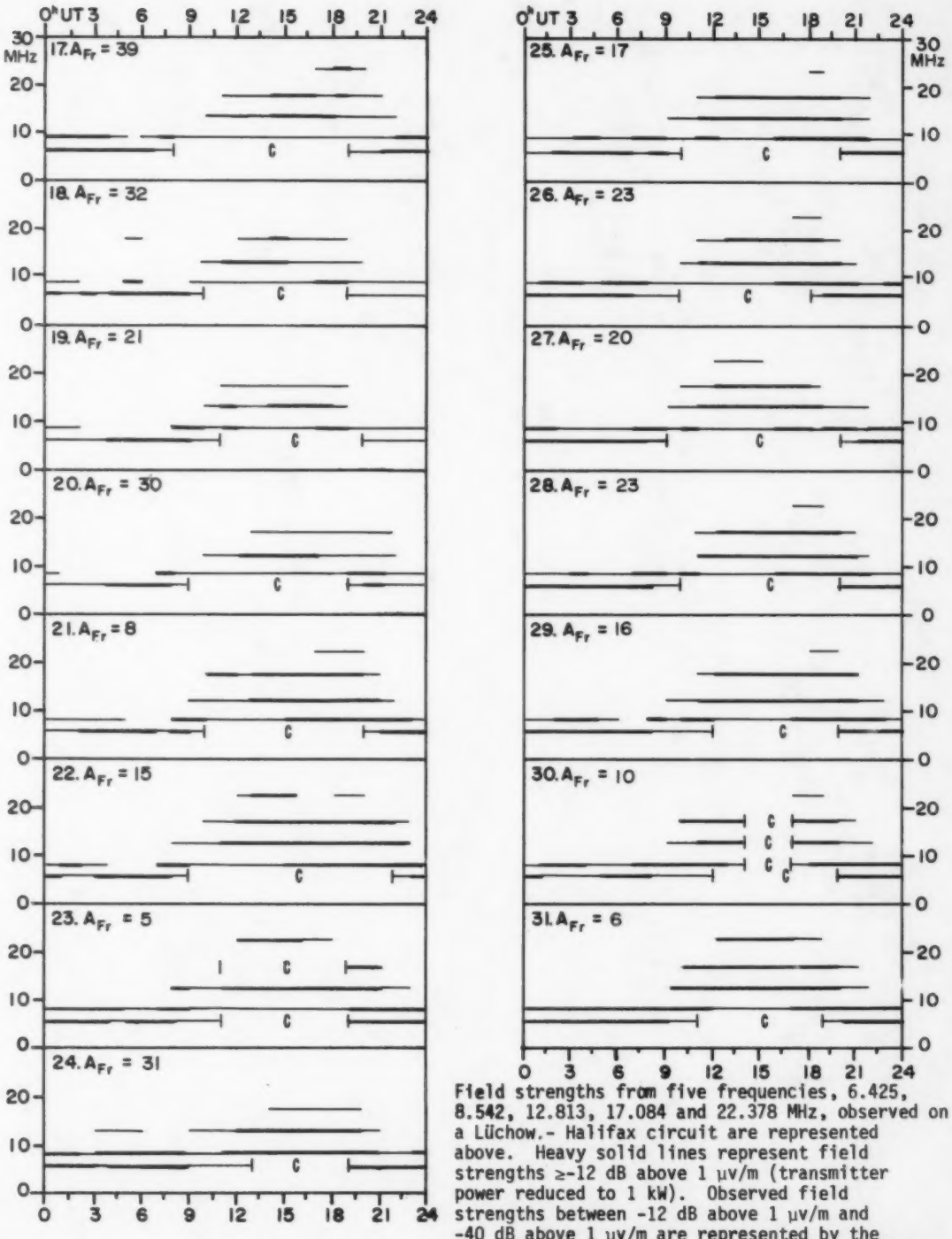
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

OCTOBER 1974



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

OCTOBER 1974



Field strengths from five frequencies, 6.425, 8.542, 12.813, 17.084 and 22.378 MHz, observed on a Lüchow.- Halifax circuit are represented above. Heavy solid lines represent field strengths ≥-12 dB above 1 μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line. Adapted from Observations by Deutsche Bundespost

USCOMM - ERL

RADIO PROPAGATION QUALITY INDICES

OCTOBER 1974

Quality Indices calculated for reception at Lüchow

	TOKYO	HALIFAX	MAURITIUS	CANBERRA
1	4.2	6.5	5.5	4.9
2	6.4	7.2	5.2	5.3
3	5.2	7.6	4.7	4.8
4	5.9	8.9	5.8	4.1
5	6.2	8.5	5.6	4.4
6	6.9	8.5	5.6	5.1
7	7.1	8.9	7.4	5.5
8	8.5	9.2	6.5	4.8
9	6.6	7.8	5.7	5.4
10	7.9	9.3	6.6	4.8
11	7.5	9.9	6.5	5.0
12	7.7	9.0	6.9	5.0
13	4.9	5.4	7.0	5.3
14	5.9	5.6	5.7	4.1
15	4.6	4.6	4.8	4.4
16	4.4	3.7	5.7	4.0
17	4.1	4.1	5.5	4.2
18	4.1	3.9	5.8	4.9
19	4.3	3.7	5.2	4.1
20	5.1	4.2	6.4	4.2
21	5.4	4.9	6.1	4.0
22	4.9	6.4	6.0	4.5
23	4.6	6.8	6.6	4.5
24	4.8	5.7	5.4	3.8
25	5.6	6.2	6.4	3.7
26	6.5	5.9	6.9	4.9
27	5.4	5.5	5.9	4.0
28	6.0	6.2	6.9	3.9
29	6.7	6.2	7.1	4.1
30	7.6	6.6	6.7	4.5
31	6.7	7.2	6.7	4.2

The method of calculation of the radio propagation indices changed in July 1974. An absolute quality figure is calculated for a 24-hour period from Tokyo, Halifax, Mauritius (Africa) and Canberra. The figure 0.0 corresponds to a median field strength of -30 dB above 1μV/m (converted into 1 kW and referred to an omnidirectional antenna). The figures 1 to 10 are in steps of 5 dB with the figure 10.0 corresponding to a median field strength of +20 dB above 1μV/m. The field strength of the frequency with the highest value for each hour is used in place of a mean of all recorded frequencies. This is done on the assumption that the optimum frequency would be used for communication.

USCOMM–NOAA–ASHEVILLE–12–74–1,000

AMERICAN REVOLUTION BICENTENNIAL 1776-1976